

JVC

VIDE-V26672

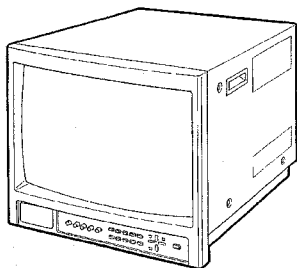
SERVICE MANUAL

COLOUR VIDEO MONITOR

BM-H2000PN

BASIC CHASSIS

BM



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SPECIFICATIONS

Item	Content	Item	Content
Color system	NTSC 3.58MHz, NTSC 4.43MHz, PAL	Y, R-Y, B-Y	RGB/COMPO
Picture tube	50cm diagonally measured, 90° deflection, in-line gun, dot pitch of 0.4 mm 399 x 298mm (W x H)	component	(1 line: common with analog RGB)
Screen size	750TV line or more	External sync	SYNC (1 line), BNC x 2
H-resolution	D-6500K; $x = 0.313$, $y = 0.329$	inputs	(with 1 bridge-connected output)
color temperature	D-9300K; $x = 0.283$, $y = 0.297$ (selectable)	Audio inputs	AUDIO A, B, RGB/COMPO (3 lines), RCA x 2 each (with 1 bridge-connected output)
Video inputs		Tally/remote	DIN (8-pin) x 1
Composite video	INPUT A, B (2 lines), BNC x 2 each (with 1 bridge-connected output) Termination switches provided	Audio power	
Y/C (1 line)	DIN (4-pin) x 2 (with 1 bridge-connected output) Termination switches provided	output	1.6W
Analog RGB	RGB/COMPO (1 line: common with Y, R- Y, B-Y), BNC x 6 (with 3 bridge-connected outputs) Termination switches provided	Operation	
		temperature	0-40°C (20-80% RH)
		Power	
		requirements	230V AC, 50/60Hz
		Power consumption	0.6A maximum
		dimension	449 x 431 x 511mm (W x H x D)
		Mass	30kg

Design & specification subject to change without notice.

SAFETY PRECAUTIONS

1. The design of this product contains special hardware, many circuits and components specially for safety purposes.

For continued protection, no changes should be made to the manufacturer's warranty and will further relieve the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.

2. Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.

3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (Δ) on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.

4. **Don't short between the LIVE side ground and ISOLATED(NEUTRAL) side ground or EARTH side ground when repairing.**

Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND, the ISOLATED(NEUTRAL) : (⊥) side GND and EARTH : (⊕) side GND. Don't short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND and never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND at the same time.

If above note will not be kept, a fuse or any parts will be broken.

5. If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B1 POWER SUPPLY).
6. The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.
7. Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10kΩ 2W resistor to the anode button.
8. When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.

9. Isolation Check

(Safety for Electrical Shock Hazard)

After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screwheads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

(1) Dielectric Strength Test

The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 3000V AC (r.m.s.) for a period of one second.

(... Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.)

This method of test requires a test equipment not generally found in the service trade.

(2) Leakage Current Check

Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).

• Alternate Check Method

Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner. Connect a 1500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.35V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).

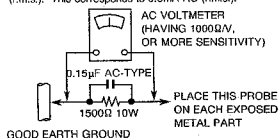


Fig.A

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Manual Change Information

SERVICE MANUAL

COLOUR VIDEO MONITOR

BM-H2000PN

BASIC CHASSIS

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Since some details of the BM-H2000PN service manual (No.51042, Sep. 1995) were changed, we are informing you of these changes and of the new descriptions.

CHANGED ITEMS

EXPLODED VIEW PARTS LIST (Page 5)

	SYMBOL No.	PARTS No.		PARTS NAME	DESCRIPTION
		PREVIOUS	NEW		
	13	CM22909-001	CM22909-A01	CONTROL BRACKET	
	16	CM46115-B01	CM46115-C01	POWER KNOB	
	100	CM12697-A0B-M0	CM12697-B0B-M0	FRONT PANEL ASSY	Inc.No.101 ~ 103
	102	CM43094-001	CM43094-A01	JVC MARK	

PRINTED WIRING BOARD PARTS LIST

SIGNAL PW BOARD ASS'Y (FX-1072A) (Page 6)

	SYMBOL No.	PARTS No.		PARTS NAME	DESCRIPTION
		PREVIOUS	NEW		
	D1502	MA3047(L)-X		CHIP ZENER DIODE	DELETE

CRT SOCKET PW BOARD ASS'Y (FX-3037A) (Page 12)

	SYMBOL No.	PARTS No.		PARTS NAME	DESCRIPTION
		PREVIOUS	NEW		
	C3313		QFLC1HK-122MZ	M CAP.	1200pF 50V K

POWER PW BOARD ASS'Y (FX-9043A) (Page 16)

	SYMBOL No.	PARTS No.		PARTS NAME	DESCRIPTION
		PREVIOUS	NEW		
	C9018	QEHC1HM-106MZ	QEHC1HM-226MZ	E CAP.	22 μ F 50V M

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VICTOR COMPANY OF JAPAN, LIMITED

TELEVISION RECEIVER DIVISION 1106 Heta, Iwai-city, Ibaraki-prefecture, 306-06, Japan

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 INI

OPERATING INSTRUCTIONS

JVC

BM-H2000PN/BM-H1400PN/BM-1400PN COLOUR VIDEO MONITOR

INSTRUCTIONS: COLOUR VIDEO MONITOR
 BEDIENUNGSANLEITUNG: FARB-VIDEO-MONITOR
 MANUEL D'INSTRUCTIONS: MONITEUR VIDEO COULEUR
 MANUALE DI ISTRUZIONI: MONITOR VIDEO A COLORI
 INSTRUCCIONES: MONITOR DE VIDEO A COLOR

BM-H2000PN BM-H1400PN BM-1400PN



Printed in Japan
 JVC Visual Corp.
 GPO: 51042

JVC

VICTOR COMPANY OF JAPAN, LIMITED

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Thank you for purchasing this JVC colour video monitor. Before using it, read and follow all instructions carefully to take fullest advantage of the monitor's performance.

SAFETY PRECAUTIONS

In order to prevent any fatal accidents caused by misoperation or misadjusting of the monitor, be fully aware of all the following precautions.

WARNINGS

To prevent fire or shock hazard, do not expose the monitor to wet or damp conditions.
 Dangerous high voltages are present inside the unit. Do not remove the back cover of the cabinet.
 When servicing the monitor, contact qualified service personnel. Never try to service it yourself.

PRECAUTIONS

- Use only the power cords specified on the unit.
 - When not using this unit for a long period of time, or when the power cord is damaged, disconnect the power plug from the AC outlet.
 - Do not allow anything to rest on the power cord.
 - And do not place this unit where people will tread on the cord.
 - Do not touch the power cord or power cords as this could cause electric shock.
 - Avoid using this unit under the following conditions:
 - In extremely hot, cold or humid places.
 - Near appliances generating strong magnetic fields.
 - In places subject to direct sunlight.
 - In places where the unit is exposed to vibration.
 - In atmospheres with dust or dirt.
 - Do not cover the ventilation slots while in operation as this could obstruct the required ventilation flow.
 - When dust accumulates on the screen surface, clean it with a soft cloth.
 - Do not touch the AC outlet and other wiring connected to the unit.
- As qualified service personnel to dispose of this unit.

This manual is divided into the language sections:
 English, German, French, Italian and Spanish.
 English: Pages 2 to 23
 German: Pages 24 to 45
 French: Pages 46 to 67
 Italian: Pages 68 to 89
 Spanish: Pages 90 to 111

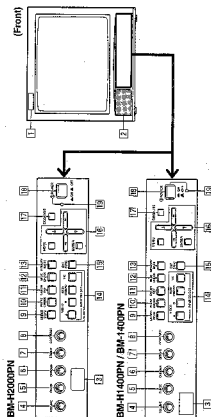
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FEATURES

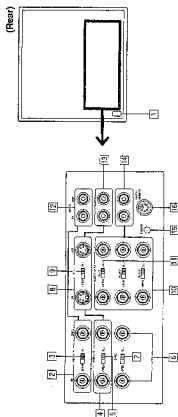
- For multiple applications with various video systems, equipped with external source component terminals that can be bridge-connected.
- Compatible with NTSC-3.58/4.3 MHz or PAL colour systems.
- The BM-H2000PN has a medium-high-definition picture tube that reproduces pictures with a horizontal resolution of 750 TV lines or more.
- The BM-H4000PN has a high-definition picture tube that reproduces pictures with a horizontal resolution of 750 TV lines or more.
- The BM-H4000PN has a high-definition picture tube that reproduces pictures with a horizontal resolution of 650 TV lines or more.
- Auto white-balance stabiliser (WB feedback circuit) maintaining stable colour reproduction over long-term use.
- A range of flexible functions includes picture aspect ratio switching (between 4:3 and 16:9), memory mode and control lock.
- Optional exclusive wireless remote control unit enables individual operation and adjustment of up to 99-unit monitors.

CONTROLS AND FEATURES (FRONT)



- 1 Tally lamp**
Glow to indicate when a tally signal is input to the TALLY/Remote terminal or on the rear panel. (For terminal connection, see page 5.)
- 2 Speaker**
Outputs sound from the monitor.
- 3 Remote control sensor**
Senses infrared signals emitted from the optional wireless remote control.
- 4 VOLUME control**
Turn to adjust the volume of the speaker outputs.
- 5 PHASE control**
Turn to adjust picture hue, using natural skin colour as a reference.
- 6 CHROMA control**
Turn to adjust picture colour density according to your requirements.
- 7 BRIGHT control**
Turn to adjust picture brightness according to your requirements.
- 8 CONTRAST control**
Turn to adjust the picture contrast according to your requirements.
- 9 UNDER SCAN switch**
Push to display the whole picture on screen by restoring the under scan position.
- 10 PULSE CROSS switch**
Push to stand the screen space (sync signal) by delaying input signal phase.
- 11 COLOR OFF switch**
Push to eliminate colour signals and display a black-and-white picture.
- 12 BLUE CHECK switch**
Push to check the blue colour signal and display a blue picture.
- 13 MEMORY MODE switch**
Push to store the picture by recalling the adjustment data that you stored in memory.
- 14 INPUT SELECT switches**
Push to select the input source (video or video input).
- 15 EXT SYNC switch**
Push to synchronize the monitor with an external sync signal. This function is effective regardless of signal input.
- 16 MENU controls**
Use to operate on-screen menu functions.
- 17 DEGAUSS switch**
Push to degauss the picture tube.
- 18 POWER switch**
Push to turn the monitor on or off.
- 19 POWER indicator**
Glow to indicate that power is on.

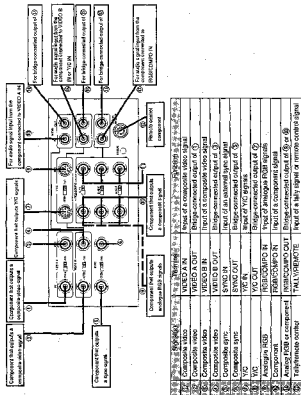
TERMINALS AND FEATURES (REAR)



- 1 Power socket**
Connect to AC power outlet (230 V AC, 50/60 Hz) using the provided power cord.
- 2 VIDEO A terminals**
Connectable video signal input terminal and bridge-connected output terminal.
- 3 VIDEO A termination switch**
Set to OPEN for bridge connection, set to 75Ω for input termination.
- 4 VIDEO B terminals**
Connectable video signal input terminal and bridge-connected output terminal.
- 5 VIDEO B termination switch**
Set to OPEN for bridge connection, set to 75Ω for input termination.
- 6 SYNC terminals**
External sync signal input terminal and bridge-connected output terminal. Input an external composite sync signal to these terminals to use the monitor as a sync master.
- 7 SYNC termination switch**
Set to OPEN for bridge connection, set to 75Ω for input termination.
- 8 Y/C terminals**
External Y/C signal input terminal and bridge-connected output terminal.
- 9 Y/C termination switch**
Set to OPEN for bridge connection, set to 75Ω for input termination.
- 10 RGB/COMPO terminals**
Input terminal of analogue RGB signals or YCbCr-Y signal and bridge-connected output terminal. For analogue RGB signals, also accepts a G signal including a sync signal.
- 11 RGB/COMPO termination switch**
Set to OPEN for bridge connection, set to 75Ω for input termination.
- 12 AUDIO A terminals**
Audio signal input terminal and bridge-connected output terminal. Connect an external stereo audio signal to these terminals so that the monitor can be used as an audio source simultaneously.
- 13 AUDIO B terminals**
Audio signal input terminal and bridge-connected output terminal. Connect an external stereo audio signal to these terminals so that the monitor can be used as an audio source simultaneously.
- 14 AUDIO RSE/COMPO terminals**
Audio signal input terminal and bridge-connected output terminal. Connect with the RGB/COMPO terminals so that the monitor can be used as an audio source simultaneously.
- 15 FOCUS control**
Adjustment knob exclusively for use by service personnel for adjustment.
- 16 TALLY/REMOTE terminal**
External input terminal of a tally signal to make the tally lamp glow, or of a remote-control signal to switch input or picture colour.

NOTE

② The connection shown below is only an example. Terminals and their functions differ in accordance with a component to be connected. Also read and follow the instructions for line connection.



Push the front panel EXT SYNC switch to ON, and the monitor operates to synchronise with an external sync signal input to the rear panel SYNC IN terminal.

Push the switch again to OFF, and the monitor operates to synchronise with a sync signal included in a video signal (if it includes a sync signal) input via a video input terminal.

Set RGB or COMPO, on screen to match the type of video signal input to the rear panel RGB/COMPO IN terminals.

Operations:

2. Discuss them. A one-hour session, usually in the afternoon, is devoted to the discussion of the papers. The papers are read in the order in which they appear in the program. The discussion is led by the author of the paper. The discussion is usually very lively and often leads to a better understanding of the paper. The discussion is usually very lively and often leads to a better understanding of the paper.

5. Press the ► button to ► all essential...

4. Press the **MENU** button to complete.

Turn the VOLUME control to the right to increase the level, or to the left to decrease the level.

Relation between input mode indication and signal transmission

Pin Number	Pin Name	Signal Description
1	VIDEO A	Composite video signal input to VIDEO A IN
2	VIDEO B	Composite video signal input to VIDEO B IN
3	Y/C	Y/C signal input to Y/C IN
4	R/G/B	Analog RGB signal input to RGBCOMP IN
5	COMPONENT	Component signal input to RGBCOMP IN

Colour gradient infiltration

Modulation	Code system	Channel width (Hz)	Carrier frequency (MHz)	Version
NTSC	NTSC	3.58 MHz	60 Hz	Version 1
PAL	PAL	4.43 MHz	50 Hz	Version 1
N4.43	NTSC	4.43 MHz	60 Hz	Version 1
BWV	(Indicates when a black-and-white signal is input)			
NTSC SYNC	(Indicates when no signal is input)			

NOTE

⚠ This function is not effective if activated a second time after a very short time has elapsed. When degassing must be repeated, proceed after at least 10 minutes have passed since that degassing.

⚠ The optional wireless remote control features a DEGAUSE key.

To demagnetise the picture tube

After positioning near the monitor a speaker (non-magnetised), or other equipment that generates a strong magnetic field, or after relocating the monitor, colour patches could appear in the picture due to magnetisation of the picture tube. If this occurs, push the DEGAUSS switch to demagnetise the picture tube.



PICTURE ADJUSTMENTS

Turn a separate front panel control to adjust picture contrast, picture brightness, picture colour density, and picture hue respectively:

CONTRAST (picture contrast) _____

Softer  Clearer

BRIGHT (picture brightness) _____

Darker  Brighter

CHROMA (picture colour density) _____

Thinner  Denser

PHASE (picture hue) _____

Purplish  Greenish



- To adjust the CHROMA and PHASE controls more precisely, input the BLUE CHECK function as follows: BLUE CHECK function as follows:

After inputting this colour bar input, push the BLUE CHECK switch to display a monochrome blue picture without red/green signal components. Turn the CHROMA and PHASE controls so that all four, in the picture, appear to have the same density and brightness.

Blue	
Black	
Blue	
Black	
Blue	
Black	
Blue	

Relation between picture adjustments and input video signals

Each picture adjustment is effective for the following video signal input:

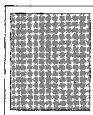
Signal	Component video	Yes	No	Yes	No	Yes	No	Yes	No
CHROMA	NTSC	Yes	No	Yes	No	Yes	No	Yes	No
PHASE	NTSC	Yes	No	Yes	No	Yes	No	Yes	No
CHROMA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
PHASE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CHROMA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
PHASE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

VIDEO SIGNAL CONTROLS

Push each switch to ON or OFF for video signal control.

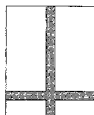
UNDER SCAN

Push the UNDER SCAN switch to reduce the dimensions of display area so the whole picture is displayed on screen. Use to check the picture frame.



PULSE CROSS

Push the PULSE CROSS switch to simultaneously display two blank areas crossed horizontally and vertically on screen ("Pulse Cross" display) by delaying the phase of the input signal. Use to check the vertical retrace line period, equalizing pulse period, vertical sync period, horizontal sync pulse, or burst signal.



- This function is not effective for analogue RGB signal input.



- This function is not effective for analogue RGB signal input.

COLOR OFF

Push the COLOR OFF switch to display a black-and-white picture by inputting a luminance signal only. Use to check the noise contained in a luminance signal or white balance.

BLUE CHECK

Push the BLUE CHECK switch to display a monochrome blue picture by eliminating red and green signal components. Use to check or adjust the CHROMA and/or PHASE controls.

ON-SCREEN MENU CONTROLS

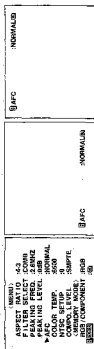
By calling up the menu display on screen, various functions can be selected and set as needed.

Calling up the menu display, selecting an item

- Press the MENU button to call up the menu display on screen (see (1) below).
- Press again to make the display disappear.
- Press the \blacktriangle or \blacktriangledown button to select an item to be set. \blacktriangleright is indicated for the selected item.
- Press the \leftarrow or \rightarrow button to change the setting.
- After selecting another item by pressing the \blacktriangle or \blacktriangledown button, repeat step 3.
- These settings are all kept in memory after power is turned off.
- Press the MENU button to complete. The menu display disappears.



- When the menu display (1) appears at the bottom of the screen, the video signal is lost. The video signal returns when the menu display disappears.
- When the menu display (1) appears, you can also select the item or data you want to set.
- When the menu display (1) appears, each time the \blacktriangle button is pressed, the video signal is lost. When the menu display disappears, the video signal returns.
- When the menu display (1) appears, the video signal is lost. When the menu display disappears, the video signal returns.
- When the menu display (1) appears, the video signal is lost. When the menu display disappears, the video signal returns.



ASPECT RATIO (picture aspect ratio switching)

The aspect ratio of the picture can be switched between 4:3 and 16:9. When switching to "16:9" on screen, the height of the picture is slightly reduced (see right).



FILTER SELECT (built-in filter selection)

When a composite video signal of the NTSC system (excluding NTSC 4.43) is input to the monitor, either or both of two filters in the monitor can be activated.



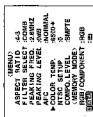
ON-SCREEN MENU CONTROLS (continued)



- When analogue RGB signals are input to the monitor, the indications do not appear and the functions cannot be operated.



- By changing the actual setting of the video signal, the video signal is added to the light of the setting to indicate that the factory preset setting was changed.



- The item and setting are indicated on screen and the function can be operated only when a video signal of the NTSC system is input to the monitor.



- The item and setting are indicated on screen and the function can be operated only when a composite video signal is input to the monitor.

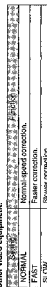
PEAKING FREQ/PEAKING LEVEL (picture quality improvement)

Corrects the luminance signal to improve picture quality by changing peak frequency and/or peak level depending on the video signal input to the monitor. Use PEAKING FREQ. to set correction frequency. Use PEAKING LEVEL to set correction level.



AFC (switching of time constant for the AFC)

Use to set the time constant for the AFC (auto fine-tuning control) to correct slow distortion of video signals input via a videotape recorder or other video equipment.



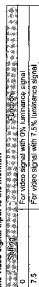
COLOR TEMP. (colour temperature switching)

Use to set the colour temperature of white balance. When switching to "6500K", the color temperature of the picture is slightly reduced.



NTSC SETUP (NTSC set-up level)

Use to set up the luminance signal level to match the configuration of the video signal input to the monitor.



COMPO. LEVEL (chrominance level setting)

Use to set the chrominance level of a composite video signal.



MEMORY MODE

A set of picture settings can be programmed in memory for quick recall when necessary.

Recall/release of memory mode

Press the **MEMORY MODE** switch to recall a set of picture settings programmed in memory.
The MEMORY MODE switch has the functions of the front-panel **PHASE**, **CHROMA**, **BRIGHT**, **CONTRAST** controls, and remote-control picture adjustment not to be operated.

Press again to release memory mode.

Setting programming of the picture being monitored

The settings of the picture being monitored can be programmed in memory.

- Settings programmable in memory mode:
- Settings of the **CONTRAST**, **BRIGHT**, **CHROMA** and **PHASE** controls on the front panel
 - On-screen menu function settings (except **RGB COMPONENT**)
 - Remote-control picture adjustment settings

- Check the **MEMORY MODE** switch is off.
- Press the **MENU** button.
- Press the **▲** or **▼** button to select **MEMORY MODE**. Then press the **ENTER** button to programme.
- Press the **▲** or **▼** button to cancel.

Revision of memory mode

Programmed picture settings can be revised if necessary.

- Press the **MEMORY MODE** switch to activate memory mode.
- Press the **MENU** button to call up display [1] on screen.

MEMORY MODE (continued)

- Press the **▲** or **▼** button to select a function to be revised.

Press the **ENTER** button after selecting **PICTURE ADJUSTMENT** to call up display [2].

After making all settings on screen, press the **MENU** button to make display [1] appear.

- Press the **▲** or **▼** button to change the set level.

Adjustable **CONTRAST**, **BRIGHT**, **CHROMA** or **PHASE** range depends on each set level previously stored in memory. **MAX** appears to indicate maximum level that cannot be increased. **MIN** appears to indicate minimum level that cannot be decreased.

Variable setting range

PICTURE ADJUSTMENT	CONTRAST	BRIGHT	CHROMA	PHASE
ADJUSTMENT	-20 to +20	-20 to +20	-20 to +20	-20 to +20
FILTER SELECT	4.3	16.3	COMB	4.3
PEAKING FREQ.	2.5MHz	5.0MHz	2.5MHz	2.5MHz
AFC	0.999	6500	0.999	6500
COLOR TEMP.	0	7.5	0	0
CMPO. LEVEL	SMPT	BETA2	BETA2.5	SMPT

NOTE

- The **ENTER** button is pressed after a function other than **PICTURE ADJUSTMENT** is selected, the on-screen display changes into a display showing the function selected. After making a change in function, press the **MENU** button to restore display [1].

MEMORY MODE REVISI

Are you sure ?

Yes: Press [ENTER]

No: Press [MENU]

- With display [1] on screen, press the **MENU** button to make display [1] appear.

- Press the **ENTER** button to programme.
- Press the **▲** or **▼** button to cancel.

MEMORY MODE

Are you sure ?

Yes: Press [ENTER]

No: Press [MENU]

NOTE

- No matter what video signal is input, all items appear on screen. However, some functions may not operate even if their settings are a mode.

MEMORY MODE REVISI

Are you sure ?

Yes: Press [ENTER]

No: Press [MENU]

[1]

SET-UP FOR MONITOR INSTALLATION (continued)

STATUS DISPLAY (setting the status display to on/off)

When the power is turned on or the input mode is switched, the status display (colour system and input mode) appears on screen. The display can be set to on or off.

Setting	Function
ON	Status display appears.
OFF	Status display does not appear.

CONTROL LOCK (deactivation of front-control functions)

Set CONTROL LOCK to ON on screen to deactivate the front-control functions (front VOLUME control and remote volume control are operable).

Setting	Function
ON	Front VOLUME control and remote volume control are operable.
OFF	Front VOLUME control and remote volume control are inactivated.

NOTE

- If you attempt to operate a locked function, "CONTROL LOCK ON" appears on screen for approx. 2 seconds to indicate the function is locked.
- Once CONTROL LOCK is displayed, the current settings of the front-control heads and buttons are inactivated.
- When power is turned off with CONTROL LOCK activated, the function is kept in memory.

PICTURE SETTING INITIALISATION

MENU and/or SET-UP MENU settings including added changes can be reset (initialised) to their factory-preset conditions.

To initialise MENU settings only

MENU settings (except MEMORY MODE and RGB/COMPONENT) can be exclusively reset:

- With the \blacktriangledown button pressed, press the MENU button to display \square on screen.
- Press the ENTER button to reset.
- Press the \blacktriangleleft or \blacktriangleright button to cancel.

NOTE

Factory-preset on the MENU settings, see page 21.

(MENU) RESET

Are you sure?

Yes: then \square

No: then \square

- MENU and PICTURE ADJUST settings (except MEMORY MODE and RGB/COMPONENT) can also be simultaneously reset via the optional wireless remote control unit:

- Press the MENU key to display MENU on screen.
- Press the RESET key to cancel.

To initialise both MENU/SET-UP MENU settings

MENU and SET-UP MENU settings other than MEMORY MODE and RGB/COMPONENT can be reset at the same time. The case of PICTURE ADJUST settings and remote control are also reset, and the monitor's ID number is also reset to 01.

- Press the POWER switch to turn the power off.
- With the \blacktriangledown and MENU buttons pressed, press the POWER switch to turn the power on. Keep pressing the \blacktriangledown and MENU buttons until \square appears on screen.
- Press the \blacktriangleleft or \blacktriangleright button to select SET-UP MENU/RESET. Then press the ENTER button to display \square on screen.
- Press the ENTER button again to execute.
- Press the \blacktriangleleft or \blacktriangleright button to cancel.

(INITIALIZE MENU)

Are you sure?

Yes: then \square

No: then \square

(SET-UP MENU) RESET

Are you sure?

Yes: then \square

No: then \square

REMOTE CONTROLS

The optional wireless remote control unit (RM-CS50W) operates the following:

- On-screen menu functions (MENU, SET-UP MENU, etc.)
- Picture adjustments (CONTRAST, BRIGHT, CHROMA, PHASE)
- Sound adjustments (VOLUME, MUTE)

On-screen menu remote operation

Remote keys and front controls with the same designation share the common functions. For detailed operation, see instructions about each menu function in this manual.

Picture adjustments

Each adjustable angle depends on the setting of the front CONTRAST/BRIGHT/CHROMA, or PHASE control. If an adjustment is made to the CONTRAST/BRIGHT/CHROMA or PHASE control, the level may indicate a certain change on screen but may not actually increase or decrease.

- Press the PICTURE key to display PICTURE ADJUST.
- Press the \blacktriangle or \blacktriangledown key to select an item.
- Press the \blacktriangle or \blacktriangledown key to change the level.
- Move the cursor to left to decrease the level.
- Move the cursor to right to increase the level.
- Press the \blacktriangle or \blacktriangledown key to another item and repeat step 3.
- Press the PICTURE key to complete.

To standardise all settings on PICTURE ADJUST:

After step 1, press the RESET key.

Sound adjustments

A variable range depends on the setting of the front VOLUME control. If audio level is remote-controlled with front VOLUME control, the sound level may not actually increase or decrease.

- Press the VOLUME $-$ or $+$ key to decrease or increase the level (within 120).
- Press the MUTE key to mute the sound. MUTE appears on screen for approx. 3 seconds. Press again to release.



When entering the picture of analog RGB signals, compressed digital or black-and-white signal, CHROMA and PHASE do not appear on screen. When a video signal of the PAL system is input to this monitor, PHASE does not appear and cannot be adjusted.

PICTURE ADJUST:
 CONTRAST 00
 BRIGHT 00
 CHROMA 00
 PHASE 00
 RESET



Each time the PICTURE key is pressed, the previous display is retained.

VOLUME 40



If the power is turned off with sound muting activated, the function is kept in memory.
 Next sound muting starts the next time the power is turned on. Next VOLUME control or press the remote VOLUME $-$ or $+$ key.

EACH REMOTE CONTROL OF PLURAL MONITORS

To operate or adjust plural units of monitors, by programming and assigning an ID number (00 to 99) for each monitor, a specified monitor can be remote-controlled.

To programme an ID number (use front controls):

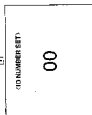
- Press the POWER switch to turn the power off.
- With the \blacktriangledown and MENU buttons pressed, press the POWER switch to turn the power on. Keep pressing the \blacktriangledown and MENU buttons until \square appears.
- Press the \blacktriangle or \blacktriangledown button to select ID NUMBER SET. Then press the ENTER button to display 00.
- Select an ID number.
- Press the \blacktriangleright button to increase.
- Press the \blacktriangleleft button to decrease.
- Press the ENTER button to programme.

To call up an ID number (use remote unit):

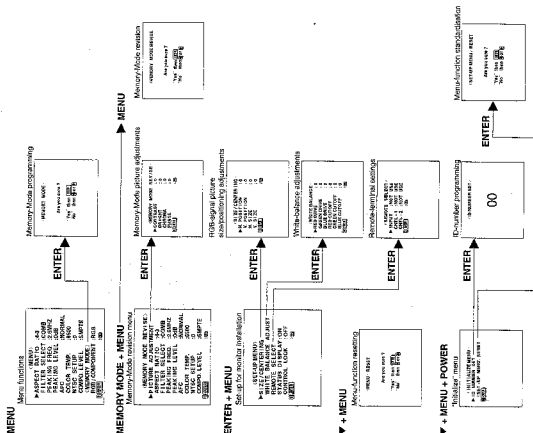
- Press the DISPLAY key to indicate a programmed ID number at top right of the screen.
- Red-indicated ID number:
Indicates the monitor can be remote-controlled.
- Green-indicated ID number:
Indicates the monitor cannot be remote-controlled.
- Press the DISPLAY key to make the number disappear.

To assign a monitor (use remote control):


- Press the DISPLAY key to display the monitor's programmed ID number.
- Press the numeric keys to enter the monitor's ID number.
- Press the ID number appears and blinks on screen centre.
- Press the ID SET key to complete.
The programmed ID number in the top right of the screen panel will indicate the monitor was assigned. Other monitoring ID numbers are indicated in green.
- After adjusting the monitor, repeat steps 2 to 4 to adjust each monitor if necessary.
- Press the DISPLAY key to clear on-screen ID numbers.



Adjustments or settings preset at the factory are shown in the menus. For PICTURE ADJUST MENU via remote control, see page 18.

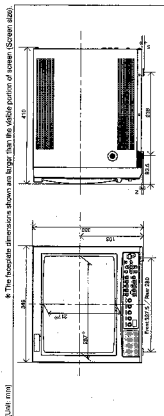


Before concluding a problem has occurred, check the following points. If the problem persists after carrying out the checks, disconnect the power cord from the AC outlet and consult the dealer from whom you purchased the monitor.

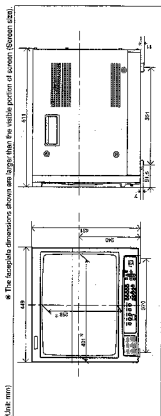
Problems	Causes	Remedies
Irregular adjustment controls or buttons.	Is MEMORY MODE switched on?	Switch off.
Abnormal picture adjustments with all controls at centre.	Is CONTROL LOCK activated?	Deactivate it.
	Are PICTURE ADJUST menu settings changed via remote control?	Reset to standard settings.
Irregular picture synchronisation.	Is EXT SYNC switched on?	Switch to off.
Irregular remote-controlled picture adjustments.	Are the text controls set incorrectly to the maximum or minimum?	If so, the settings may not be necessary for video control (although setting levels indicated on screen may show a slight change).
Assigned remote control ID number operates another monitor.	Is ID number 00 programmed for other monitors?	Programme an ID number other than 00.
	Do other monitors indicate a red ID number?	Assign the ID number again.
Irregular remote control.	Is the ID number programmed for other monitors assigned?	Programme the monitor's programmed ID number.
No sound via audio signal input.	Does the audio input terminal match the video input terminal?	Check audio input terminal is linked with a video input terminal.
No INITIALIZE MENU display.	Are you pressing the  and MENU buttons until it appears?	Keep pressing these buttons until it appears.
Irregular CNTL-2 external control with FULL/MEMO/TE terminal.	Is a function applied common to CNTL-1 and CNTL-2?	Set other functions to CNTL-2.

[illegible]

BM-H1400PN / BM-1400PN



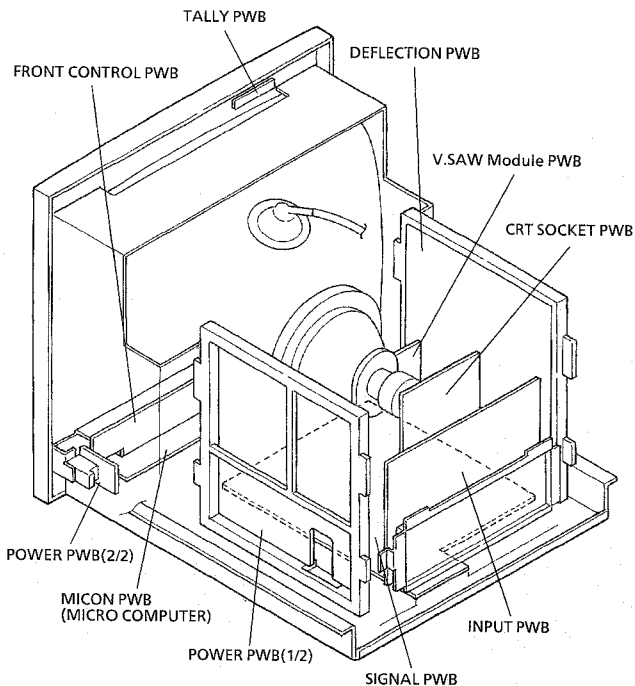
3M-H2000PN



a The faceplate dimensions shown are larger than the visible portion of screen (Screen size)

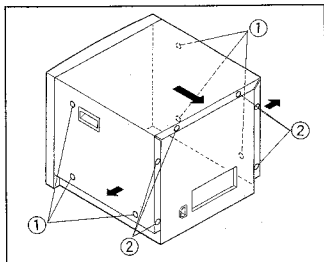
E. & O.E. Design and specifications subject to change without notice.

MAIN PARTS LOCATION



SPECIFIC SERVICE INSTRUCTIONS

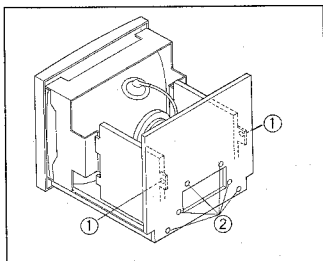
Disassembly



- Be sure to disconnect the power cord from the AC outlet before disassembly and reassembly. Use care since unless the power cord is disconnected, some parts may still be live even when the power switch is off.

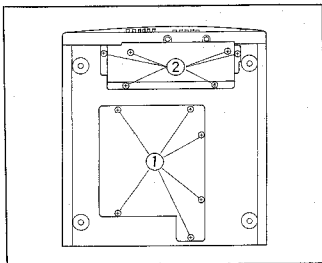
■ Top cover

1. Take out 6 screws ① and 6 screws ②.
2. Slightly spread the bottom part of the cover, shift it rearward and raise the top cover to remove it.



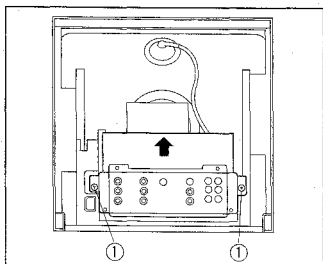
■ Rear panel

1. Remove the top cover.
2. Take out 2 screws ① and 6 screws ② to remove the rear panel.



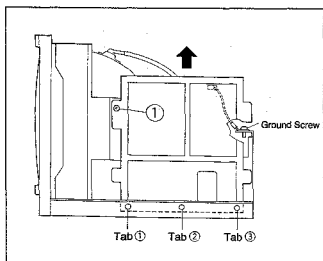
■ Bottom shield and shield cover

1. Remove the top cover and rear panel.
2. Take out 6 screws ① and remove the bottom shield.
3. Take out 6 screws ② and remove the shield cover.



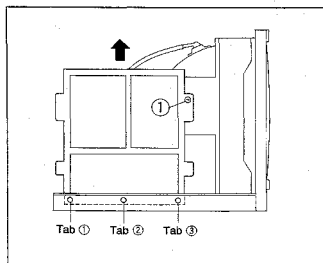
■ Input PWB

1. Remove the top cover and rear panel.
2. Take out 2 screws ①.
3. While pressing the lower signal PWB, pull upward and remove the input PWB. Use care regarding the tabs and engage the PWB to enable powered checks.



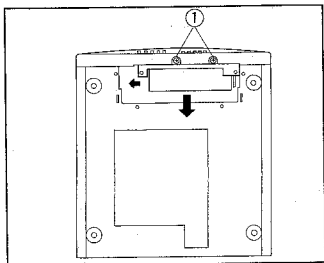
■ Power supply PWB

1. Remove the top cover and rear panel.
2. Take out 1 screw ①.
3. While raising the PWB, insert a screwdriver or similar tool to disengage tabs 1, 2 and 3, then remove the PWB.



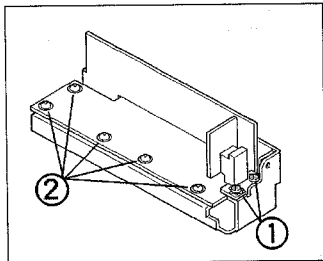
■ Deflection PWB

1. Remove the top cover and rear panel.
2. Take out 1 screw ①.
3. While raising the PWB, insert a screwdriver or similar tool to disengage tabs 1, 2 and 3, then remove the PWB.



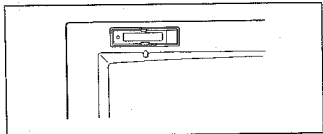
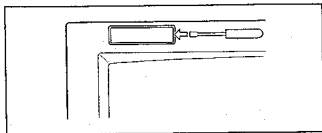
■ Front control brackets

1. Remove the shield cover.
2. Take out 2 screws ①.
3. Slide each bracket slightly toward the left, then pull downward to remove.



■ Power switch, front control PWB, CPU PWB

1. Remove the front control brackets (including CPU PWB).
2. Take out 2 screws ① and remove the power switch.
3. Take out 5 screws ② and remove the front control and CPU PWBs.
4. Disengage the connectors of the two PWBs.



■ Tally PWB

1. While using care not to scratch the front panel, insert a flat blade screwdriver into the edge of the tally cover and remove the cover.
2. Since the tally PWB appears, press the top and bottom tabs downward with the screwdriver.
3. Pull the PWB downward to tilt and remove the PWB.

REPLACEMENT OF CHIP COMPONENT

CAUTIONS

1. Avoid heating for more than 3 seconds.
2. Do not rub the electrodes and the resist parts of the pattern.
3. When removing a chip part, melt the solder adequately.
4. Do not reuse a chip part after removing it.

SOLDERING IRON

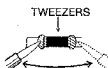
1. Use a high insulation soldering iron with a thin pointed end of it.
2. A 30w soldering iron is recommended for easily removing parts.

REPLACEMENT STEPS

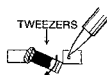
1. How to remove Chip parts

•Resistors, capacitors, etc

- (1) As shown in the figure, push the part with tweezers and alternately melt the solder at each end.



- (2) Shift with tweezers and remove the chip part.



•Transistors, diodes, variable resistors, etc

- (1) Apply extra solder to each lead.



- (2) As shown in the figure, push the part with tweezers and alternately melt the solder at each lead. Shift and remove the chip part.

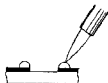


Note: After removing the part, remove remaining solder from the pattern.

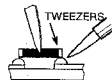
2. How to install Chip parts

•Resistors, capacitors, etc

- (1) Apply solder to the pattern as indicated in the figure.



- (2) Grasp the chip part with tweezers and place it on the solder. Then heat and melt the solder at both ends of the chip part.

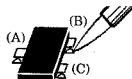
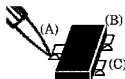


•Transistors, diodes, variable resistors, etc

- (1) Apply solder to the pattern as indicated in the figure.
- (2) Grasp the chip part with tweezers and place it on the solder.

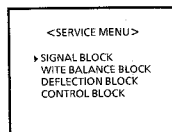
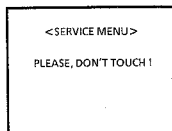
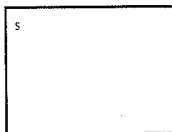
- (3) First solder lead A as indicated in the figure.

- (4) Then solder leads B and C.

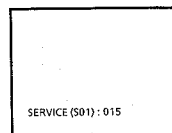


Service menu entry

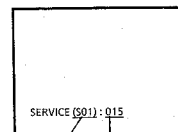
- If the separately sold remote controller (RM-C550W) is available, this can be used for adjustments. Normally, perform adjustments using the set front control panel.
1. While holding Enter depressed, press Degauss.
 2. The letter S appears at the upper left of the screen.
 3. While holding Enter depressed, press Menu.
 4. The screen display changes to <SERVICE MENU> PLEASE, DON'T TOUCH!
 5. Press the left [←] or right arrow [→] to display the service menu.
- If Step 4 state continues for more than 5 seconds without a further operation, the display extinguishes and the mode is released.



Service main menu



Adjustment mode menu



Adjustment item number

Setting value

Item selection

- While the service main menu is displayed:
1. Press the up [↑] or down arrow [↓] to select the item.
 2. After selecting the item, press Enter.
 3. The adjustment mode menu is displayed.

Setting value change

- While the adjustment mode menu is displayed:
1. Press the right arrow [→] to change the setting value in the + direction.
 2. Press the left arrow [←] to change the setting value in the - direction.
 3. Press the up [↑] or down arrow [↓] to change the adjustment item number.

Service menu exit

1. When settings are completed, press Menu.
2. The service main menu returns.
3. Again press Menu.
4. The screen display extinguishes and the service mode is exited.

■ Signal system settings

No.	Input	Signal	Item	Data type	Variable range	Initial value
S01			Bright	Standard value	0~63	15
S02	Video	NTSC	Chroma	Standard value	0~63	32
S03	Video	NTSC	Phase	Standard value	0~63	32
S04	Video	NTSC	Contrast	Standard value	0~63	32
S05	Video	PAL	Chroma	Standard value	0~63	32
S06	Video	PAL N443	Contrast	Standard value	0~63	32
S07	Video Y/C	N443	Phase	Standard value	0~63	32
S08	Y/C	NTSC	Chroma	Standard value	0~63	32
S09	Y/C	NTSC	Phase	Standard value	0~63	32
S10	Y/C	NTSC PAL N443	Contrast	Standard value	0~63	32
S11	Y/C	PAL	Chroma	Standard value	0~63	32
S12	Color difference	N10/ SMPTE	Chroma	Standard value	0~63	32
S13	Color difference		Contrast	Standard value	0~63	32
S14	RGB		Contrast	Standard value	0~63	32
S15	Video	N443	Chroma	Correction value	0~255	3
S16	Y/C	N443	Chroma	Correction value	0~255	3
S17	Color difference	BETA	Chroma	Correction value	0~255	247
S18			Bright →pulse cross	Correction value	0~255	20
S19			Contrast →pulse cross	Correction value	0~255	236
S20			Bright →underscan	Correction value	0~255	0
S21			Contrast →underscan	Correction value	0~255	252
S22			Bright →16 : 9	Correction value	0~255	0
S23			Contrast →16 : 9	Correction value	0~255	250
S24	Video	SECAM	Chroma	Standard value	0~63	32
S25	Video	SECAM	Contrast	Standard value	0~63	32
S26	Y/C	SECAM	Chroma	Standard value	0~63	32

No.	Input	Signal	Item	Data type	Variable range	Initial value
S27	Y/C	SECAM	Contrast	Standard value	0~63	32
S28			Peak Drive Limit	Fixed value	0~255	45
S29			Control Reg - 1	Fixed value	0~255	193
S30			Control Reg - 2	Fixed value	0~255	0
S31	Video	NTSC,B/ W 60	Y Delay	Fixed value	0~255	65
S32	Y/C	NTSC,B/ W 60	Y Delay	Fixed value	0~255	73
S33	Video	PAL,B/W 50	Y Delay	Fixed value	0~255	82
S34	Y/C	PAL,B/W 50	Y Delay	Fixed value	0~255	82
S35	Video	N443	Y Delay	Fixed value	0~255	82
S36	Y/C	N443	Y Delay	Fixed value	0~255	82
S37	Video	SECAM	Y Delay	Fixed value	0~255	82
S38	Y/C	SECAM	Y Delay	Fixed value	0~255	82
S39	Color difference		Y Delay	Fixed value	0~255	64

■ White balance settings

No.	Color temperature	Scan	Item	Data type	Variable range	Initial value
W01	9300	Normal	R - Cutoff	Standard value	0~63	37
W02	9300	Normal	G - Cutoff	Standard value	0~63	25
W03	9300	Normal	B - Cutoff	Standard value	0~63	23
W04	9300	Normal	R - Drive	Standard value	0~63	34
W05	9300	Normal	G - Drive	Standard value	0~63	32
W06	9300	Normal	B - Drive	Standard value	0~63	30
W07	6500	Normal	R - Cutoff	Standard value	0~63	48
W08	6500	Normal	G - Cutoff	Standard value	0~63	25
W09	6500	Normal	B - Cutoff	Standard value	0~63	12
W10	6500	Normal	R - Drive	Standard value	0~63	37
W11	6500	Normal	G - Drive	Standard value	0~63	32
W12	6500	Normal	B - Drive	Standard value	0~63	24

No.	Color temperature	Scan	Item	Data type	Variable range	Initial value
W13	3200	Normal	R - Cutoff	Standard value	0~63	Not used(32)
W14	3200	Normal	G - Cutoff	Standard value	0~63	Not used(32)
W15	3200	Normal	B - Cutoff	Standard value	0~63	Not used(32)
W16	3200	Normal	R - Drive	Standard value	0~63	Not used(32)
W17	3200	Normal	G - Drive	Standard value	0~63	Not used(32)
W18	3200	Normal	B - Drive	Standard value	0~63	Not used(32)
W19		Under	R - Cutoff	Correction value	0~255	0
W20		Under	G - Cutoff	Correction value	0~255	0
W21		Under	B - Cutoff	Correction value	0~255	0
W22		Under	R - Drive	Correction value	0~255	0
W23		Under	G - Drive	Correction value	0~255	0
W24		Under	B - Drive	Correction value	0~255	0
W25		16 : 9	R - Cutoff	Correction value	0~255	0
W26		16 : 9	G - Cutoff	Correction value	0~255	0
W27		16 : 9	B - Cutoff	Correction value	0~255	0
W28		16 : 9	R - Drive	Correction value	0~255	0
W29		16 : 9	G - Drive	Correction value	0~255	0
W30		16 : 9	B - Drive	Correction value	0~255	0

■ Deflection system settings

No.	Scan	Input	V. frequency	Item	Variable range	Initial value
D01	Normal	Video	60Hz	V-Size →Standard value	0~63	38
D02	Normal	Video	60Hz	V-Shift →Standard value	0~63	32
D03	Normal	Video	60Hz	V-Linearity →Standard value	0~15	7
D04	Normal	Video	60Hz	S-Correction →Standard value	0~15	15
D05	Normal	Video	60Hz	H-Size →Standard value	0~63	26
D06	Normal	Video	60Hz	H-Shift →Standard value	0~63	32
D07	Normal	Video	60Hz	Pin-AMP →Standard value	0~63	41
D08	Normal	Video	50Hz/60Hz	HV-COMP-V →Standard value	0~7	7
D09	Normal	Video	50Hz/60Hz	HV-COMP-H →Standard value	0~7	0
D10	Normal	Video	50Hz	V-Size →Standard value	0~255	40
D11	Normal	Video	50Hz	V-Shift →Standard value	0~255	29
D12	Normal	Video	50Hz	V-Linearity →Standard value	0~255	8
D13	Normal	Video	50Hz	S-Correction →Standard value	0~255	15
D14	Normal	Video	50Hz	H-Size →Standard value	0~255	29
D15	Normal	Video	50Hz	H-Shift →Standard value	0~255	32
D16	Normal	Video	50Hz	Pin-AMP →Standard value	0~255	40
D17	Under	Video	50Hz/60Hz	V-Size →Correction value	0~255	230
D18	Under	Video	50Hz/60Hz	V-Shift →Correction value	0~255	0
D19	Under	Video	50Hz/60Hz	V-Linearity →Correction value	0~255	0
D20	Under	Video	50Hz/60Hz	S-Correction →Correction value	0~255	0
D21	Under	Video	50Hz/60Hz	H-Size →Correction value	0~255	0
D22	Under	Video	50Hz/60Hz	H-Shift →Correction value	0~255	0
D23	Under	Video	50Hz/60Hz	Pin-AMP →Correction value	0~255	2
D24	Under	Video	50Hz/60Hz	HV-COMP-V →Correction value	0~255	0
D25	Under	Video	50Hz/60Hz	HV-COMP-H →Correction value	0~255	0
D26	16 : 9	Video	50Hz/60Hz	V-Size →Correction value	0~255	0
D27	16 : 9	Video	50Hz/60Hz	V-Shift →Correction value	0~255	0
D28	16 : 9	Video	50Hz/60Hz	V-Linearity →Correction value	0~255	0
D29	16 : 9	Video	50Hz/60Hz	S-Correction →Correction value	0~255	0
D30	16 : 9	Video	50Hz/60Hz	H-Size →Correction value	0~255	0

No.	Scan	Input	V. frequency	Item		Variable range	Initial value
D31	16 : 9	Video	50Hz/60Hz	H-Shift	→Correction value	0~255	0
D32	16 : 9	Video	50Hz/60Hz	Pin-AMP	→Correction value	0~255	0
D33		RGB	60Hz	V-Shift	→Correction value	0~255	0
D34		RGB	60Hz	H-Shift	→Correction value	0~255	0
D35		RGB	50Hz	V-Shift	→Correction value	0~255	0
D36		RGB	50Hz	H-Shift	→Correction value	0~255	0
D37	Pulse Cross		50Hz/60Hz	V-Shift	→Correction value	0~255	0
D38	Pulse Cross		50Hz/60Hz	H-Shift	→Correction value	0~255	0
D39	External SYNC		50Hz/60Hz	V-Shift	→Correction value	0~255	0
D40	External SYNC		50Hz/60Hz	H-Shift	→Correction value	0~255	0
D41	TILT		50Hz/60Hz	TILT	→Fixed value	0~255	16
D42	U/L Corner Pin		50Hz/60Hz	U/L CORNER PIN	→Fixed value	0~255	255
D43	V-BOW/V-ANGLE		50Hz/60Hz	V-BOW/V-ANGLE	→Fixed value	0~255	136

■ Control system setting

No.	Item	Variable range	Initial value	Remarks
C01	Color TEMP. Default	0~255	1	Color temperature initial setting 1:6500K,2:9300K
C02	Menu display time	0~255	0	Menu display time 0: extinguish after 5 minutes, 1: continuous
C03	OSDC Color	0~255	7	On-screen color setting, power off/on needed after changing (see table next page)
C04	OSDC H.Position	0~255	5	On-screen H. position 0 - 15
C05	OSDC V.Position (60Hz)	0~255	1	On-screen V. position (60 Hz) 0 - 15
C06	OSDC V.Position (50Hz)	0~255	2	On-screen V. position (50 Hz) 0 - 15
C07	Bright Data to MAX	0~255	20	Effective brightness range from center detent to maximum
C08	Bright Data to MIN	0~255	20	Effective brightness range from center detent to minimum

No.	Item	Variable range	Initial value	Remarks
C09	Chroma Data to MAX	0~255	30	Effective chroma range from center detent to maximum
C10	Chroma Data to MIN	0~255	50	Effective chroma range from center detent to minimum
C11	Contrast Data to MAX	0~255	20	Effective contrast range from center detent to maximum
C12	Contrast Data to MIN	0~255	20	Effective contrast range from center detent to minimum
C13	Phase Data to MAX	0~255	30	Effective phase range from center detent to maximum
C14	Phase Data to MIN	0~255	30	Effective phase range from center detent to minimum
C15	Signal	0~255	10	Signal Status display check time when signal change or display after data x 32 ms when counter is 0 - 127, not displayed when 127 - 255
C16	System detect	0~255	0	0: automatic, 1: 3.58 MHz, 2: 4.43 MHz

No.	On-screen color setting data	No.	On-screen color setting data
129	Blue	0	Black (darkens during blue check)
130	Green	1	Black (brightens during blue check)
131	Aqua	2	Green (darkens during blue check)
132	Red	3	Green (brightens during blue check)
133	Magenta	4	Red (darkens during blue check)
134	Yellow	5	Red (brightens during blue check)
135	White	6	Orange (darkens during blue check)
136	Black	7	Orange (brightens during blue check)

Set-up menu entry

- If the separately sold remote controller (RM-C550W) is available, this can be used for adjustments. Normally, perform adjustments using the set front control panel.
1. While holding Enter depressed, press Menu.
 2. The Set-up menu is displayed on the screen.

Item selection

■ Size/centering, white balance adjust, remote select

- Size/centering items are displayed only when RGB input is selected.
1. Press the up [↑] or down arrow [↓] to select Size/Centering items.
 2. After selecting the item, press Enter.
 3. The adjustment mode menu is displayed.
 4. Again press Enter to display the adjustment mode sub-menu for each adjustment item (select adjustment item with up [↑] or down arrow [↓]).
 5. Press Menu to display the original adjustment mode menu.
 6. Perform in the same manner for White balance adjust and Remote select.

■ Status display

1. Press the up [↑] or down arrow [↓] to select the status display items.
2. Press the left [←] or right arrow [→] to select on/off.

■ Control lock

- Except for sound volume, all control operations are inhibited from the front control buttons, Phase, Chroma, Bright and Contrast controls, and the remote controller (sound volume remains operational).
1. Press the up [↑] or down arrow [↓] to select Control Lock.
 2. Press the left [←] or right arrow [→] to select on/off.
 3. The status just prior to selecting On is held and after exiting the set-up main menu, control adjustment is inhibited.
 4. To release the control lock, press Enter and Menu to display the set-up main menu, then set Control Lock to Off.

<SET-UP MENU>

► SIZE/CENTERING
WHITE BALANCE ADJUST
REMOTE SELECT
STATUS DISPLAY : ON
CONTROL LOCK : OFF

Set-up main menu

<SIZE/CENTERING>

► H.SIZE : +05
V.SIZE : -05
H.POSITION : +03
V.POSITION : -07

Adjustment mode menu

H.SIZE : +05

V.SIZE : -05

H.POSITION : +03

V.POSITION : -07

Adjustment mode sub-menu

H.SIZE → V.SIZE → H.POSITION → V.POSITION

Setting value change

- Set for displaying the adjustment mode menu or the adjustment mode sub-menu.
1. Press the right arrow [→] to change the adjustment value in the + direction.
 2. Press the left arrow [←] to change the adjustment value in the - direction.
 3. Press the up [↑] or down arrow [↓] to change the adjustment item.
 4. Press Menu to return the set-up main menu. (At the adjustment mode sub-menu, again press Menu.)

Set-up menu exit

1. When settings are complete, press Menu.
2. The screen display extinguishes and the set-up menu is exited.

Set-up menu checks

■ White balance

To check if adjustment has changed:

1. Press Menu to display the user main menu.
2. If an asterisk (*) appears at the Color Temp. item, the setting has been changed.

■ Set-up menu initialize

To return changed Size/Centering and White Balance Adjust to original status (initialize);

1. Hold the mainframe down arrow [↓] and Menu depressed, and set power on (inoperable from remote controller).
2. The initialize menu is displayed (hold depressed until menu appears).
3. Select Set-up Menu Reset and press Enter.
4. The set-up reset menu is displayed.
5. Press Enter to return the standard settings. Note that Remote Elect, Status Display and Control Lock are initialized and ID No. is cleared to 0.

< MENU >

ASPECT RATIO : 4-3
COLOR TEMP. : 6500*
RGB/COMPONENT : RGB

User main menu

< INITIALIZE MENU >

ID NUMBER SET
▶ <SET-UP MENU> RESET

Initialize menu

<SET-UP MENU> RESET

Are you sure ?
"Yes" then [ENTER]
"No" then [←]or[→]

Set-up reset menu

Memory IC replacement notes

This model uses non-volatile memory ICs. When these are replaced, the data must be reset.

Video and deflection system data are stored in IC103. If this is replaced without entering the data, a normal picture will not be obtained. When replacing, be sure to use an IC(ST24BM-1400) containing the (initial value) data.

■ Set-up menu record

Press Menu and at the menu display, check if an asterisk (*) appears after Color Temp. If the asterisk appears, the user has set the values according to personal preference. To the extent possible, make a memo of the setting values before replacing the IC.

■ IC replacement steps

1. To the extent possible, make a memo of the set-up menu and adjustment mode menu contents.
2. Switch off the power and disconnect the power cord from the outlet.
3. Replace IC103.
4. Reconnect the power cord to the outlet and switch power on.
5. Refer to the memo and enter the setting values.
6. Perform adjustments according to the adjustment items.

SERVICE ADJUSTMENTS

PRIOR TO STARTING ADJUSTMENT

1. Supply power to the set and measuring instruments and allow to warm up for at least 30 minutes.
2. Confirm the proper AC power voltage is being supplied.
3. Use care not to disturb controls and switches not mentioned in the adjustment items.
4. Refer to adjustment settings and set user operated controls (bright, contrast, hue, tint, etc.) to the indicated positions.

TOOLS AND FIXTURES FOR ADJUSTMENT

- DC voltmeter (digital voltmeter)
 - Oscilloscope
 - Signal generator (PAL/NTSC systems)
 - Color bar and split color bar patterns
 - Crosshatch pattern
 - Cross pattern
 - Red raster pattern
 - Green raster pattern
 - Blue raster pattern
 - Philips pattern (including R-Y and B-Y)
 - TV resolution pattern
 - Remote control unit (RM-C550W)
 - Color analyzer
 - High voltage meter
- Desirable
Desirable
Adjustments easier if available
Desirable
Desirable

ADJUSTMENT SETTINGS

1. Front controls

CONTRAST	Detent
CONTRAST	Detent
BRIGHT	Detent
CHROMA	Detent
PHASE	Detent
VOLUME MIN	Detent

2. Front switches

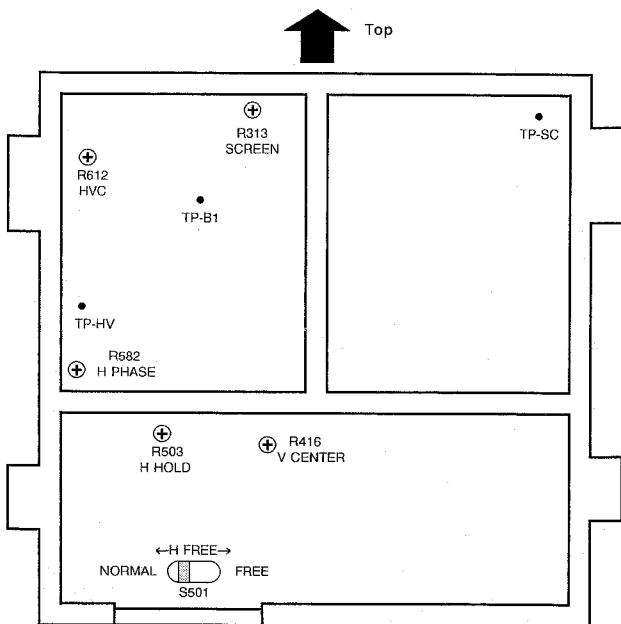
INPUT SELECT	VIDEO A	
EXT SYNC	INT	Switched not depressed
UNDER SCAN	OVER	"
PULSE CROSS	OFF	"
COLOR OFF	COLOR	"
BLUE CHECK	OFF	"
MEMORY MODE	OFF	"

3. Menu screen

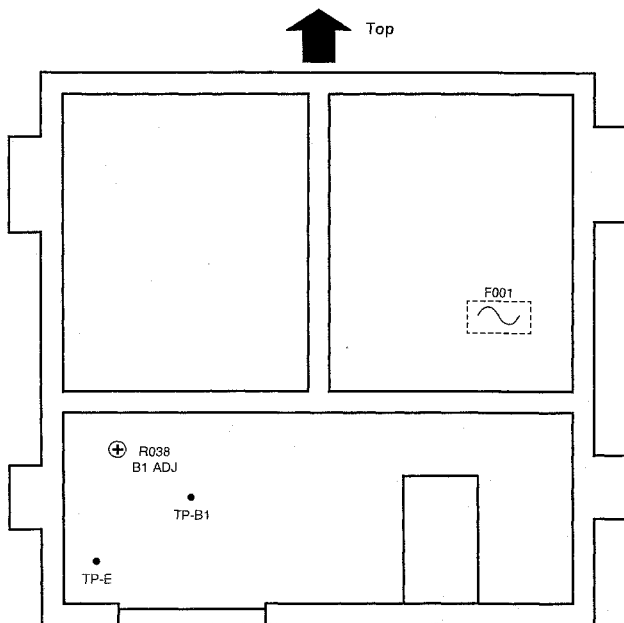
ASPECT RATIO	4 - 3
FILTER SELECT	COMB
PEAKING FREQ.	2.5MHz
PEAKING LEVEL	0dB
AFC	NORMAL
COLOR TEMP.	<u>9300</u>
NTSC SETUP	0
COMPO. LEVEL	SMPTE
RGB/COMPONENT	RGB

ADJUSTMENT LOCATIONS

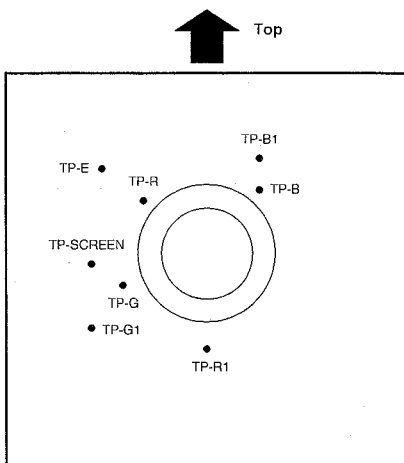
■ Deflection PWB (pattern side)



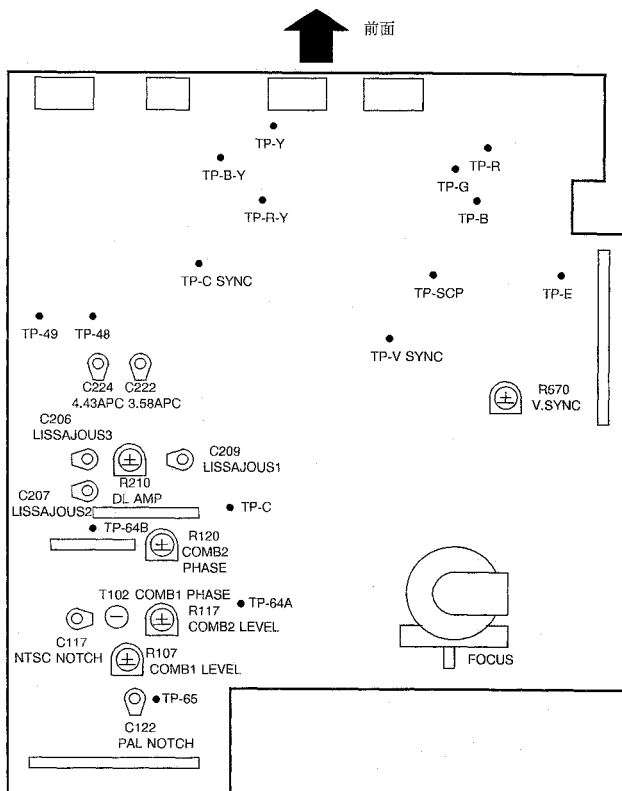
■ Power PWB (pattern side)



■CRT socket PWB (pattern side)



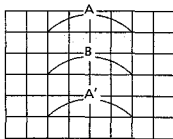
■Signal PWB (parts side)

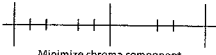




ADJUSTING STEP

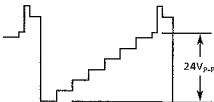

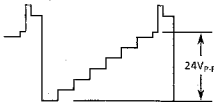

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
B1 voltage check	Voltmeter Variable transformer	TP-B1 TP-E	R038 (B1 adj) [Power PBW]	<ol style="list-style-type: none"> 1. Set power supply voltage to 90 V. 2. Set contrast and bright to minimum and produce a black screen. 3. Connect voltmeter between TP-B1 and TP-E. Switch on power. 4. Adjust R038 (B1 adj) to set the B1 voltage to 85.0 ± 0.2 V. 5. Set the power supply voltage to 132 V. 6. Check for B1 voltage of 85.0 ± 0.2 V. 7. Return the contrast and bright controls to the detent positions.
High voltage check	High voltage meter Signal generator (All-black signal)			<ol style="list-style-type: none"> 1. Set the Ext Sync switch to Ext. 2. Connect a synchronization signal to Ext Sync. 3. When the raster appears, reduce the bright control. 4. Connect the high voltage meter to the anode and check for 24.0 - 25.0 KV. 5. Return the Ext Sync switch to Int.
v.deflection center	Signal generator (Resolution pattern)		D02(NTSC V SHIFT) [SERVICE MENU] R416(V CENTER) [Deflection PWB]	<ul style="list-style-type: none"> • Perform after purity adjustment. • Adjust deflection yoke inclination. <ol style="list-style-type: none"> 1. At service menu, set D02 to 32. 2. Adjust R416 (V phase) to align the picture center with the CRT center.
Screen	Oscilloscope Signal generator (Color bar)	TP-SC	R313 (SCREEN) [Deflection PWB]	<ol style="list-style-type: none"> 1. Connect oscilloscope to TP-SC. 2. Adjust R313 (Screen) to set the screen voltage to 450 ± 10 V.
Focus	Signal generator (Resolution pattern)		FOCUS VR [HVT]	<ol style="list-style-type: none"> 1. Adjust the Focus VR for optimum focus where moire is not apparent. 2. Darken the picture and and adjust the focus by turning counter-clockwise from the position where focus is poor. 3. Alternately repeat the above steps to obtain the optimum position. <ul style="list-style-type: none"> • Focus can be adjusted easily by displaying the menu.
H frequency	Signal generator (Resolution pattern)		D06(H SHIFT) [SERVICE MENU] S501 (H FREE SW) R503(H HOLD) [Deflection PWB]	<ol style="list-style-type: none"> 1. At the service menu, set D06 to 32. 2. Set S501 (H Free SW) to Free. 3. Adjust screen sync with R503 (H Hold). 4. Set S501 (H Free SW) to Normal. 5. Change the signal, then return the previous signal. Confirm absence of sync disturbance.
H center (NTSC)	Signal generator (Resolution pattern)		D06(H SHIFT) [SERVICE MENU] R582(H PHASE) [Deflection PWB]	<ol style="list-style-type: none"> 1. At the service menu, set D06 to 32. 2. Adjust R582 (H Phase) to align the picture center with the CRT center.


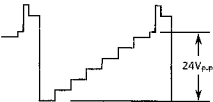


Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
HVC	Voltmeter Signal generator (All-black signal)	TP-HV	R612(HVC) [Deflection PWB]	<ol style="list-style-type: none"> 1. Set Ext Sync to Ext and supply a horizontal sync signal input. 2. When the raster appears, reduce the Bright control. 3. Connect the voltmeter to TP-HV. 4. Adjust R612 (HVC) for 2.0 ± 0.1 V.
H gain (NTSC)	Signal generator (Resolution or crosshatch pattern)		D05(H SIZE) D21(H SIZE) D22(H SHIFT) [SERVICE MENU]	<ol style="list-style-type: none"> 1. At the service menu, set D05 to adjust the horizontal size to 95 %. 2. Set the Scan Size to Under. 3. Set D21 to 00. 4. Set D22 to 253. 5. Return the Scan Size to normal.
H center H gain (PAL)	Signal generator (Resolution or crosshatch pattern)		D15(H SHIFT) D14(H SIZE) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Adjust D15 to align the picture center with the CRT center. 2. Adjust D14 to set the horizontal size to 95 %.
V gain, V center, V linearity (NTSC)	Signal generator (Resolution pattern)		D03(V LINEARITY) D01(V SIZE) D17(V SIZE) D19(V LINEARITY) D18(V SHIFT) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Check that the horizontal line of the video signal center is at the CRT center (if shifted, adjust R416). 2. Adjust the picture vertical linearity (scan ratio) with D03. 3. Adjust the screen top and bottom edges to 95 % with D01. 4. Set the Scan Size to Under. 5. Set D17 to 230. 6. Set D19 to 00. 7. Set D18 to 00. 8. Return the Scan Size to normal.
V gain, V center, V linearity (PAL)	Signal generator (Resolution pattern)		D11(V SHIFT) D12(V LINEARITY) D10(V SIZE) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Adjust D11 to align the video signal center with the CRT center. 2. Adjust the picture vertical linearity (scan ratio) with D12. 3. Adjust the screen top and bottom edges to 95 % with D10.
Side pincushion (NTSC/PAL)	Signal generator (Crosshatch NTSC/PAL)		D07(PIN AMP) D23(PIN AMP) D16(PIN AMP) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Adjust side pincushion with D07 so that A = B. 2. Set the Scan Size to Under. 3. Adjust side pincushion with D23 so that A = B. 4. Supply a PAL crosshatch input. 5. Return the Scan Size to normal. 6. Adjust side pincushion with D16 so that A = B.

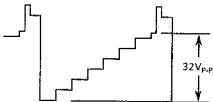
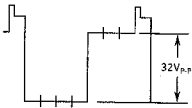


Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Comb filter (NTSC)	Oscilloscope Signal generator (Color bar)	TP-64A TP-64B	R107 (COMB1 LEVEL) T102 (COMB1 PHASE) R117 (COMB2 LEVEL) R120 (COMB2 PHASE) [Signal PWB]	<ol style="list-style-type: none"> Set the menu Filter Select to Comb. Connect oscilloscope to TP-64A. Alternately adjust R107 and T102 to minimize the chroma component.  <ol style="list-style-type: none"> Connect oscilloscope to TP-64. Alternately adjust R117 and R120 to minimize the chroma component. 
Notch filter	Oscilloscope Signal generator (Color bar NTSC/PAL)	TP-65	C117 (NTSC NOTCH) C122 (PAL NOTCH) [Signal PWB]	<ol style="list-style-type: none"> Set the menu Filter Select to Notch. Connect oscilloscope to TP-65. Adjust C117 to minimize the chroma component. Supply a PAL color bar input. Adjust C122 to minimize the chroma component. 
Color sync (NTSC)	Signal generator (Color bar) 10 K Ω resistor Shorting fixture		C222(3.58APC) [Signal PWB]	<ol style="list-style-type: none"> Connect a 10 KΩ resistor between IC201 pin 13 and +B (12 V). Connect a shorting fixture between IC201 pin 14 and ground. Adjust to synchronize the color bar with C222. Remove the resistor and shorting fixture. Change the input signal, then return the color bar. Confirm absence of sync disturbance.

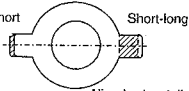
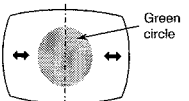
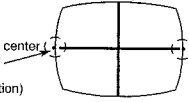
Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
APC (PAL)	Oscilloscope Signal generator (Color bar, split color bar) 10 K Ω resistor Shorting fixture	TP-48 TP-49	C224(4.43APC) R210(DL AMP) C206(LISSAJOUS 3) C207(LISSAJOUS 2) C209 [Signal PWB]	<ol style="list-style-type: none"> 1. Connect a 10 KΩ resistor between IC201 pin 13 and +B (12 V). 2. Connect a shorting fixture between IC201 pin 14 and ground. 3. Adjust to synchronize the color bar with C224. 4. Remove the resistor and shorting fixture. 5. Connect an oscilloscope to TP-48 and TP-49 and display X-Y coordinates. 6. Adjust R210 and C206 to obtain the waveform indicated in the figure. If inadequate, adjust C207 and C209. <div data-bbox="609 448 916 604"> <p>(A) Adjust (B)</p> </div> <ol style="list-style-type: none"> 7. Supply a PAL split color bar input and adjust C224 to minimize coloration in the R-Y and B-Y components.
Pulse cross	Signal generator (Color bar NTSC/PAL)		R570(V.SYNC) [Signal PWB]	<ol style="list-style-type: none"> 1. Set the pulse cross switch to on. 2. Adjust R570 to eliminate luminance and burst signal variation in the V blanking period. 3. Supply a PAL color bar input. 4. Confirm absence of luminance and burst signal variation in the V blanking period. 5. Again supply an NTSC color bar input and again confirm absence of luminance and burst signal variation in the V blanking period. 6. If variation is present, again adjust R570. 7. Set the pulse cross switch to off.
Chroma and phase (Video input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-B [CRT socket PWB]	S02(CHROMA) S03(PHASE) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Supply an NTSC color bar to Video A. 2. Set the menu Filter Select to Notch. 3. Connect oscilloscope to TP-B. 4. Alternately adjust S02 and S03 to obtain a straight line waveform. 5. Set Filter Select to Comb. <div data-bbox="642 1074 896 1153"> </div>

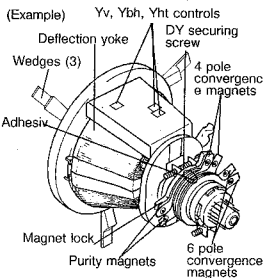
Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Contrast (Video input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-G [CRT socket PWB]	S04 (CONTRAST) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Supply an NTSC color bar input to Video A. 2. Set the Color Off switch to off. 3. Connect oscilloscope to TP-G. 4. Adjust the waveform level to 24 Vp-p with S04. 5. Set the Color Off switch to Color. 
Chroma (Video input, PAL)	Oscilloscope Signal generator (Color bar)	TP-B [CRT socket PWB]	S05 (CHROMA) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Supply an NTSC color bar input to Video A. 2. Connect oscilloscope to TP-G. 3. Adjust S05 to obtain a straight line waveform. 
Contrast (Video input, PAL)	Oscilloscope Signal generator (Color bar)	TP-G [CRT socket PWB]	S06 (CONTRAST) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Supply an NTSC color bar input to Video A. 2. Set the Color Off switch to off. 3. Connect oscilloscope to TP-G. 4. Adjust the waveform level to 24 Vp-p with S06. 5. Set the Color Off switch to Color. 
Phase (Video input, NTSC 4.43)	Oscilloscope Signal generator (Color bar NTSC 4.43)	TP-B [CRT socket PWB]	S07 (PHASE) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Supply an NTSC 4.43 color bar input to Video A. 2. Connect oscilloscope to TP-G. 3. Adjust S07 to obtain a straight line waveform. 

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Chroma and phase (Y/C input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-B [CRT socket PWB]	S08 (CHROMA) S09(PHASE) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Supply an NTSC color bar input to Y/C In. 2. Set the menu Filter Select to Notch. 3. Connect oscilloscope to TP-B. 4. Alternately adjust S08 and S09 to obtain a straight line waveform. 5. Set Filter Select to Comb. 
Contrast (Y/C input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-G [CRT socket PWB]	S10 (CONTRAST) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Supply an NTSC color bar input to Video A. 2. Set the Color Off switch to off. 3. Connect oscilloscope to TP-G. 4. Adjust the waveform level to 24 Vp-p with S10. 5. Set the Color Off switch to Color. 
Chroma (Y/C input, PAL)	Oscilloscope Signal generator (Color bar)	TP-B [CRT socket PWB]	S11 (CHROMA) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Supply a PAL color bar input to Video A. 2. Connect oscilloscope to TP-B. 3. Adjust S11 to obtain a straight line waveform. 
Chroma (Component input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-B [CRT socket PWB]	S12 (CHROMA) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Set the menu RGB/Component to Component. 2. Supply an NTSC color bar input to Component In. 3. Connect oscilloscope to TP-B. 4. Adjust S12 to obtain a straight line waveform. 5. Return the menu RGB/Component to original setting. 

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Contrast (Component input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-G [CRT socket PWB]	S13 (CONTRAST) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Set the menu RGB/Component to Component. 2. Supply an NTSC color bar input to Component In. 3. Set the Color Off switch to off. 4. Connect oscilloscope to TP-G. 5. Adjust the waveform level to 32 Vp-p with S13. 6. Set the Color Off switch to Color. 7. Return the menu RGB/Component to original setting. 
Contrast (RGB input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-G [CRT socket PWB]	S14 (CONTRAST) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Supply an NTSC color bar input to RGB In. 2. Connect oscilloscope to TP-G. 3. Adjust the waveform level to 32 Vp-p with S14. 
Color temperature (9300 K)	Signal generator (Resolution pattern, color bar) Color analyzer or color temperature meter		C11 (CHROMA DATA TO MAX) C16 (SYSTEM DETECT) W01 (R CUTOFF) W02 (G CUTOFF) W03 (B CUTOFF) W04 (R DRIVE) W05 (G DRIVE) W06 (B DRIVE) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Supply a resolution pattern input. 2. Check that the menu Color Temp. is 9300. 3. Set the Color Off switch to off. 4. Set W01 to 32, W03 to 21, W05 to 32, and W02 to 25. 5. Adjust W04 and W06 for the specified color temperature (reference: W04 = 30, W06 = 25) ($X = 0.283$, $Y = 0.297$). 6. Supply a color bar input (black and white). 7. Check for proper white balance tracking. If deviated in the dark components, adjust with W01 and W03. <ul style="list-style-type: none"> • Adjustment with color temperature meter: Apply the sensor to the CRT, adjust and measure. If deviated, repeatedly adjust and measure to obtain the specified color temperature.

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Color temperature (6500 K)	Signal generator (Resolution pattern, color bar) Color analyzer or color temperature meter		W07 (R CUTOFF) W09 (B CUTOFF) W10 (R DRIVE) W11 (G DRIVE) W12 (B DRIVE) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Supply a resolution pattern input. 2. Set the menu Color Temp. to 6500. 3. Set the Color Off switch to off. 4. Set W07 to 37, W09 to 10, and W08 to 25. 5. Set W11 to 32. 6. Adjust W10 and W12 for the specified color temperature (reference: W10 = 33, W12 = 21) (X = 0.313, Y = 0.329) 7. Supply a color bar input (black and white). 8. Check for proper white balance tracking. If deviated in the dark components, adjust with W07 and W09. 9. Return the menu Color Temp. to original setting. <ul style="list-style-type: none"> • Adjustment with color temperature meter: Apply the sensor to the CRT, adjust and measure. If deviated, repeatedly adjust and measure to obtain the specified color temperature.
Bright	Signal generator (Split color bar)		S01 (BRIGHT) [SERVICE MENU]	<ol style="list-style-type: none"> 1. Adjust S01 to where the split color 0 % black component faintly brightens. 2. Supply another signal and confirm absence of black deviation.

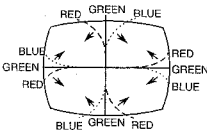
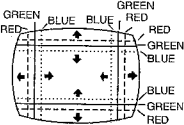
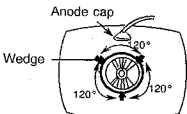
Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Purity adjustment	Degaussing coil Signal generator(green raster, red raster, blue raster, cross pattern signals)		Purity magnets Convergence magnets	<ol style="list-style-type: none"> 1. Be sure to degauss using the degaussing coil. 2. Carefully remove the wedges. 3. Peel the adhesive from the 6 magnets to allow turning the magnets. 4. Supply an green raster signal input. 5. Loosen the deflection yoke securing screw and slide the yoke fully rearward to produce a red circle display. 6. Overlap the long with short tabs of the 2 purity magnets and position these horizontally. <p>*Set the 2 purity magnets horizontally.</p>  <p>Align horizontally (Fig.2)</p> 7. Adjust the rotational angle between the tabs to produce a green circle at the center of the screen.  <p>Set the green area at the (Fig.3)</p> 8. Supply a cross pattern input and check for deviation of the vertical center position. If deviated, while maintaining the angle between the tabs, rotate the magnets to center the vertical position to the extent possible.  <p>Set the indentations near the horizontal line (tolerance about ± 5 mm) (Fig.4)</p>



(Fig.1)

Note: Do not disturb Yv, Ybh and Yht controls.

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
				9. Repeat steps 7 and 8. 10. Supply an all green signal input and shift the deflection yoke forward to where the overall screen is a green single color. 11. Also check the red and blue single color rasters. 12. Suitably tighten the deflection yoke securing screw to prevent forward to rearward shifting.
Static (center) convergence adjustment	Signal generator(crosshatch)		Deflection yoke Wedges Convergence magnets	1. Supply a crosshatch pattern input. 2. Move the deflection yoke up, down, left and right to roughly adjust the perimeter convergence. Temporarily secure with one wedge at the top. <div data-bbox="615 496 843 634" data-label="Image"> </div> <p>(Fig.5)</p> 3. Use the 4 pole magnets to overlap red and blue at the picture center to produce magenta. 4. Use the 6 pole magnets to overlap the green lines with the magenta. 5. If required, repeat steps 1 and 2. <div data-bbox="609 805 915 976" data-label="Image"> </div> <p>(Fig.6)</p>

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Dynamic (perimeter) convergence adjustment	Signal generator(crosshatch)		Wedges Deflection yoke	<ol style="list-style-type: none"> 1. Supply a crosshatch pattern input. 2. Remove the wedge temporarily securing the deflection yoke. 3. Wobble the deflection yoke vertically and set the convergence deviation as indicated in Fig.7. Again temporarily secure by inserting a wedge at the top. 4. Wobble the deflection yoke left and right and set the convergence deviation as indicated in Fig.8. 5. Alternately repeat steps 2 and 3 and adjust for minimum convergence deviation.
<p>Front</p>  <p>Arrow directions when yoke is tilted upward (opposite directions when tilted downward)</p> <p>(Fig.7)</p>				<p>Front</p>  <p>Arrow directions when yoke is tilted rightward (opposite directions when tilted leftward)</p> <p>(Fig.8)</p>
After completing convergence adjustment	Double sided tape Adhesive		Wedges Magnet lock	<ol style="list-style-type: none"> 1. Insert the wedges as shown in Fig.9.  <p>Securing with 3 wedges</p> <p>(Fig.9)</p> <p>Note: Double sided tape is applied to the wedges. Peel off the covering to secure. Do not reuse old wedges, replace them.</p> <p>Wedge part number: CE40764-00A</p> <ol style="list-style-type: none"> 2. Tighten the deflection yoke securing screw. 3. Apply adhesive to secure the 6 magnets as indicated in Fig.1.



JVC

VICTOR COMPANY OF JAPAN, LIMITED

TELEVISION RECEIVER DIVISION 1106 Heta, Iwai-city, Ibaraki-prefecture, 306-06, Japan




9508 V.P.
H.N K2 M.H

BM-H2000PN STANDARD CIRCUIT DIAGRAM

NOTE ON USING CIRCUIT DIAGRAMS

1. SAFETY

The components identified by the  symbol and shading are critical for safety. For continued safety replace safety critical components only with manufactures recommended parts.

2. SPECIFIED VOLTAGE AND WAVEFORM VALUES

The voltage and waveform values have been measured under the following conditions.

- (1) Input signal : PAL Colour bar signal
 - (2) Setting positions : (Composite Video / Input A)
 - of each knob/button
 - and variable resistor : Original setting position when shipped
 - (3) Internal resistance of tester : DC 20k Ω /V
 - (4) Oscilloscope sweeping time : H \Rightarrow 20 μ S/div
 - : V \Rightarrow 5mS/div
 - : Others \Rightarrow Sweeping time is specified
 - (5) Voltage values : All DC voltage values
- * Since the voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

3. INDICATION OF PARTS SYMBOL [EXAMPLE]

- In the PW board : R1209 \rightarrow R209

4. INDICATIONS ON THE CIRCUIT DIAGRAM

(1) Resistors

• Resistance value

- No unit : Ω
- K : k Ω
- M : M Ω

• Rated allowable power

- No indication : 1/8[W]
- Others : As specified

• Type

- No indication : Carbon resistor
- OMR : Oxide metal film resistor
- MFR : Metal film resistor
- MPR : Metal plate resistor
- UNFR : Uninflamable resistor
- FR : Fusible resistor

* Composition resistor 1/2 [W] is specified as 1/2S or Comp.

(2) Capacitors

• Capacitance value

- 1 or higher : pF
- less than 1 : μ F

• Withstand voltage

- No indication : DC50[V]
- Others : DC withstand voltage[V]
- AC indicated : AC withstand voltage[V]

• Electrolytic Capacitors

- 47/50 [Example]: Capacitance value [μ F] / withstand voltage [V]




• Type

- No indication : Ceramic capacitor
- MY : Mylar capacitor
- MM : Metalized mylar capacitor
- PP : Polypropylene capacitor
- MPP : Metalized polypropylene capacitor
- MF : Metalized film capacitor
- TF : Thin film capacitor
- BP : Bipolar electrolytic capacitor
- TAN : Tantalum capacitor

(3) Coils



- No unit : μ H
- Others : As specified

(4) Power Supply




-  : B1(85V)
-  : B2(12V)
-  : 5V

* Respective voltage values are indicated.





(5) Test Point

-  : Test point
-  : Only test point display



(6) Connecting method

-  : Connector
-  : Wrapping or soldering
-  : Receptacle

(7) Ground symbol

-  : LIVE side ground
-  : ISOLATED (NEUTRAL) side ground
-  : EARTH ground
-  : DIGITAL ground

5. NOTE FOR REPAIRING SERVICE

This model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : () side GND and the ISOLATED (NEUTRAL) : () side GND. Therefore, care must be taken for the following points.




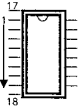





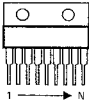

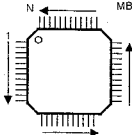


- (1) Do not touch the LIVE side GND or the LIVE side GND and the ISOLATED (NEUTRAL) side GND simultaneously. If the above caution is not respected, an electric shock may be caused. Therefore, make sure that the power cord is surely removed from the receptacle when, for example, the chassis is pulled out.
 - (2) Do not short between the LIVE side GND and ISOLATED (NEUTRAL) side GND or never measure with a measuring apparatus (oscilloscope, etc.) the LIVE side GND and ISOLATED (NEUTRAL) side GND at the same time. If the above precaution is not respected, a fuse or any parts will be broken.
- ◇ Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.

CONTENTS



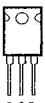
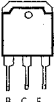
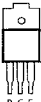
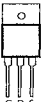




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5. SIGNAL PWB (FX-1072A)	
6. DEFLECTION PWB (FX-2033A)	
7. CRT SOCKET PWB (FX-3037A)	

■ SEMICONDUCTOR SHAPES



● IC

 <p>TC4053BP TC4066BP HD74LS04P TC4538BP HD74LS05P HD74LS00P AN5640</p>	 <p>LA7016</p>	 <p>AN7808 AN7812F TA79012S AN7805F</p> <p>IN E OUT</p>
 <p>HA11423</p>	 <p>NJM4560D μPC358 ST24BM-1400</p>	 <p>μPC1498H</p>
 <p>FA5301P</p>	 <p>TDA4680 TDA4670 AN5625N</p>	 <p>μPC358HA</p>
 <p>AN5265</p>	 <p>MB90077PF-109</p>	<p>(Flat package IC)</p>  <p>MB89647PF-125 CXD2018Q</p>
<p>(Flat package IC)</p>  <p>HD74HC32FP HD74HC158FP</p>	<p>(Flat package IC)</p>  <p>μPC4558G-W</p>	

● TRANSISTOR

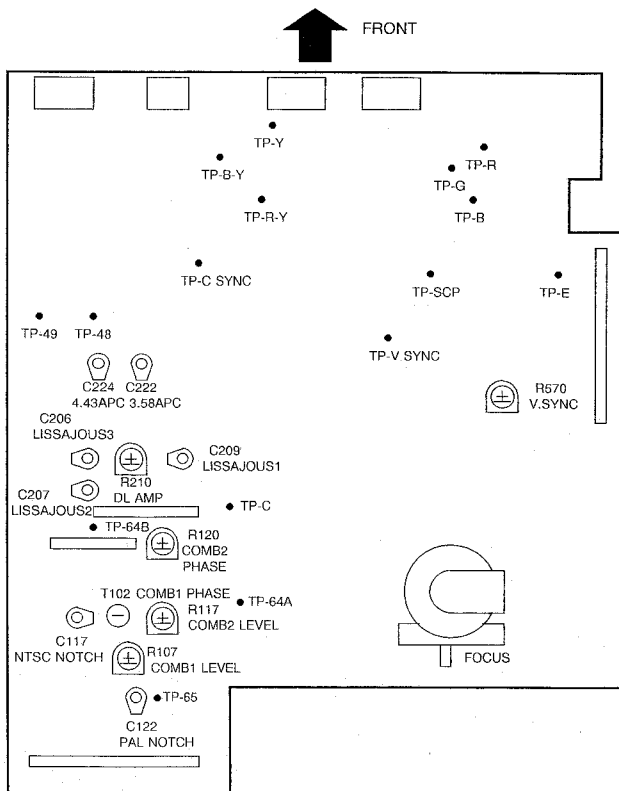
 <p>[Bottom View]</p> <p>2SC1740S(R) 2SC3311A(Q)-T</p>	 <p>[Bottom View]</p> <p>2SC3334 2SA1321 2SC1472K 2SA1370(E) 2SA562TM 2SC3187-T 2SC1959(Y) 2SA1309 2SC1815(YG)-T</p>	 <p>2SC4632</p>
 <p>2SC4569-C1</p>	 <p>2SD1408 2SD1409</p>	 <p>2SK1118</p>
 <p>2SC4544</p>	 <p>2SC4502</p>	<p>(CHIP TRANSISTOR)</p>  <p>2SC2712(YG) 2SA1162(YG)</p>
<p>(CHIP FET)</p>  <p>2SK374(Q)</p>		

● DIODE

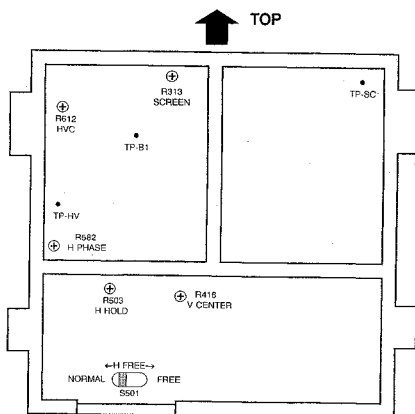
<p>(CHIP DIODE)</p>  <p>TOP VIEW</p> <p>MA3056(L)-W MA3150(M)-W MA151K-W</p>	<p>(CHIP DIODE)</p>  <p>TOP VIEW</p> <p>MA8054-W MA8130-W</p>	
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■ ALIGNMENT LOCATION

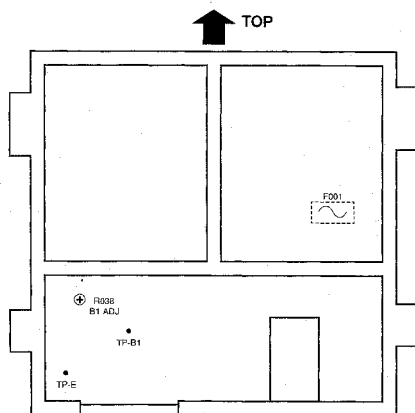
● SIGNAL PWB (PARTS SIDE)



• DEFLECTION PWB (PATTERN SIDE)

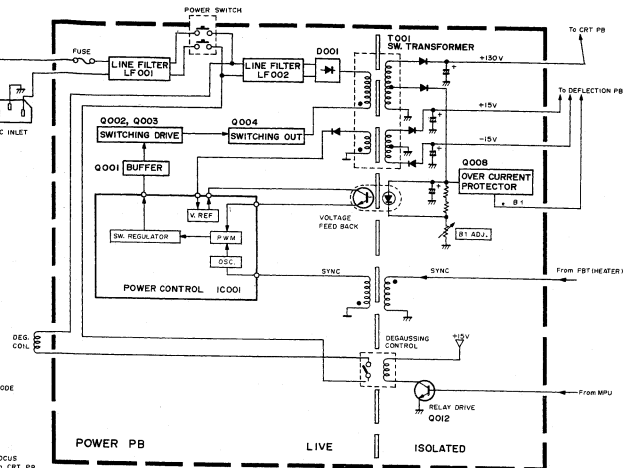


• POWER PWB (PATTERN SIDE)

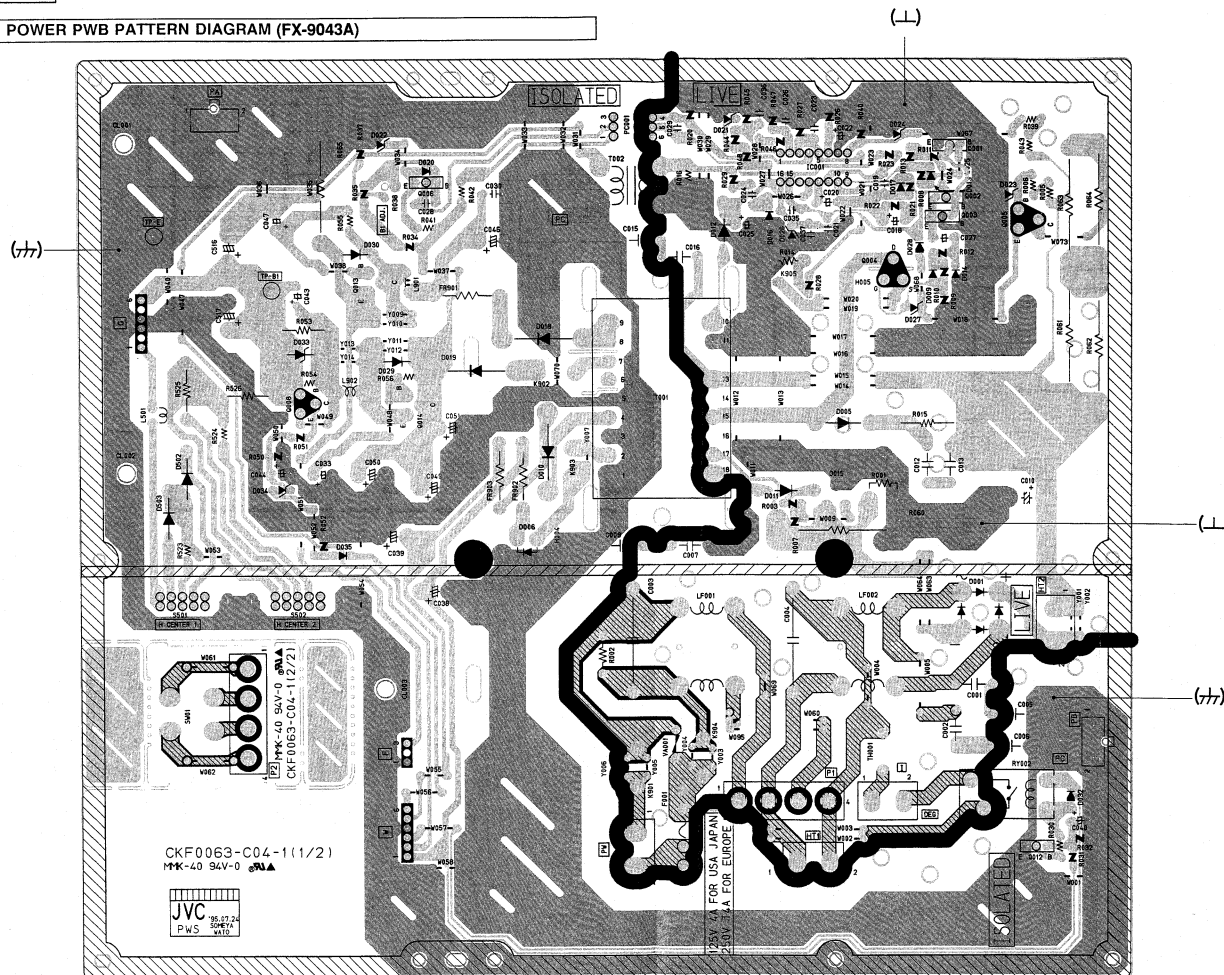


BM-H2000PN BM-H2000PN

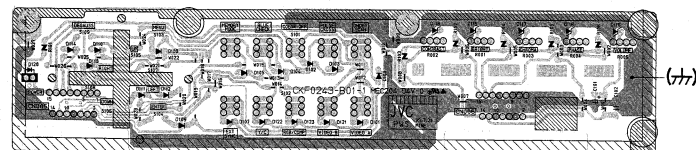
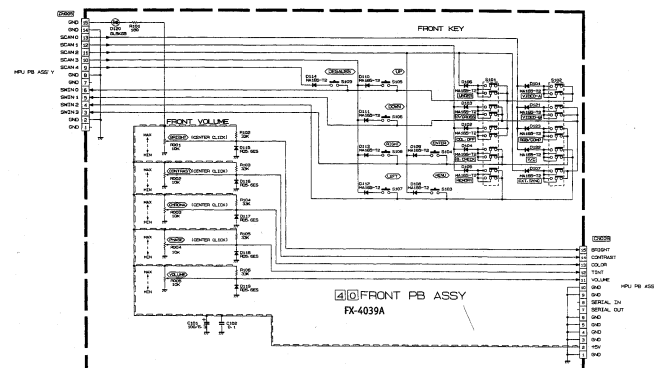
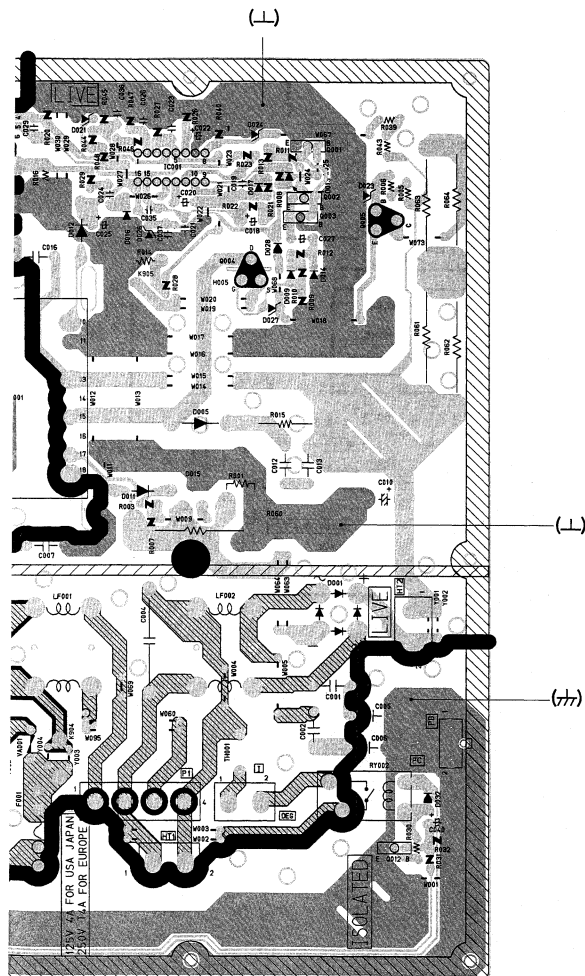


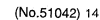


FRONT

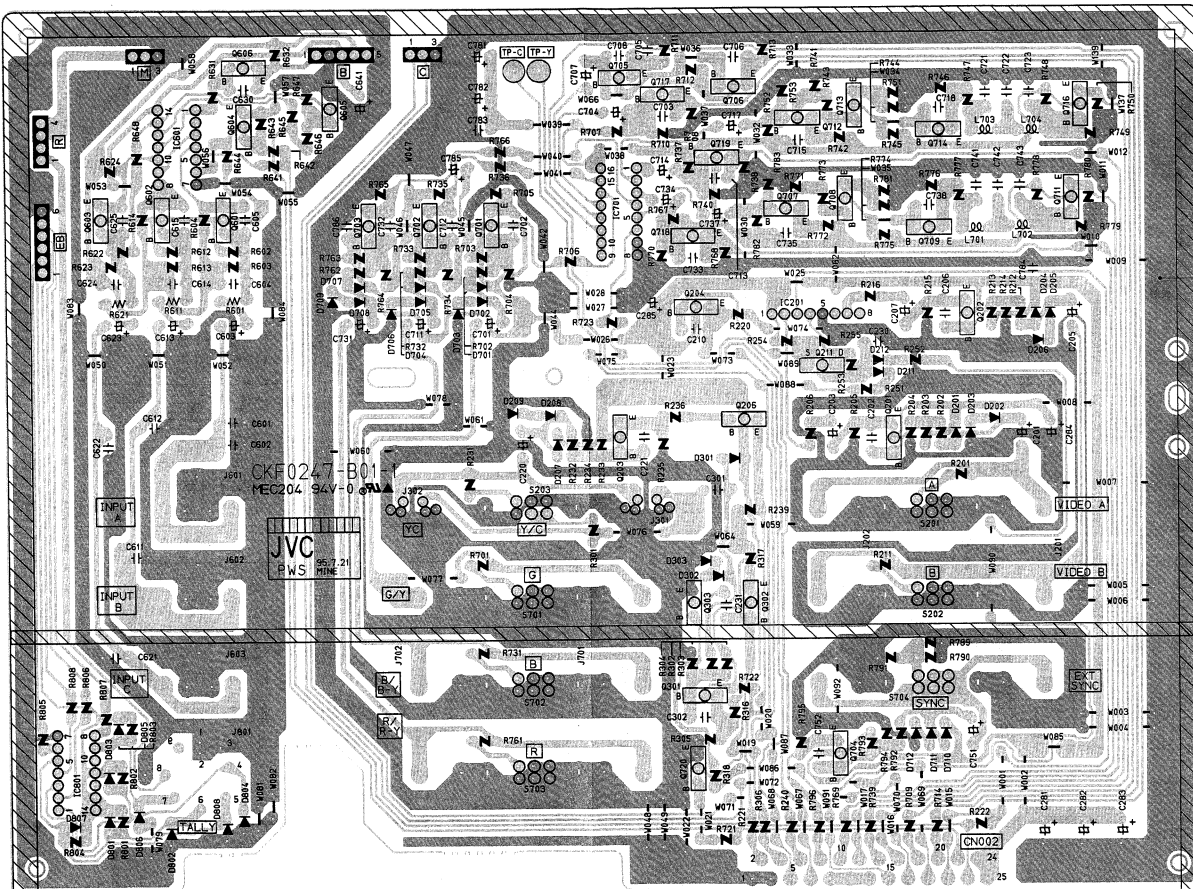


FRONT CONTROL PWB CIRCUIT DIAGRAM / PATTERN DIAGRAM (FX-4039A)

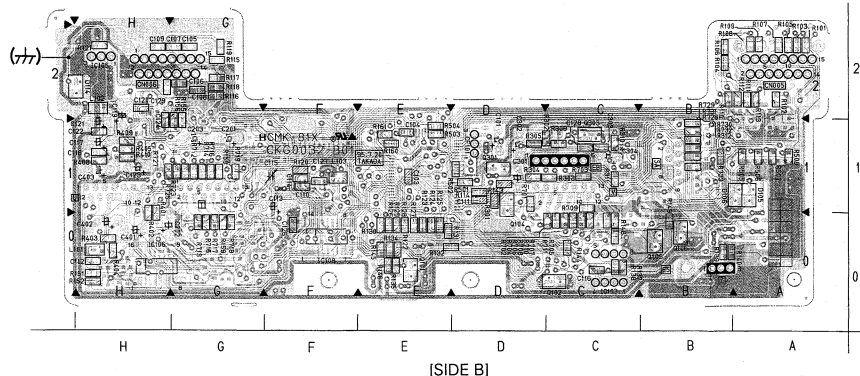
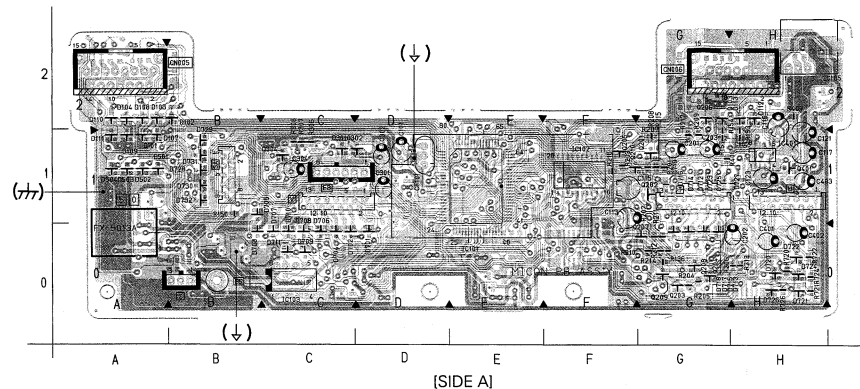




INPUT PWB PATTERN DIAGRAM (FX-6047A)



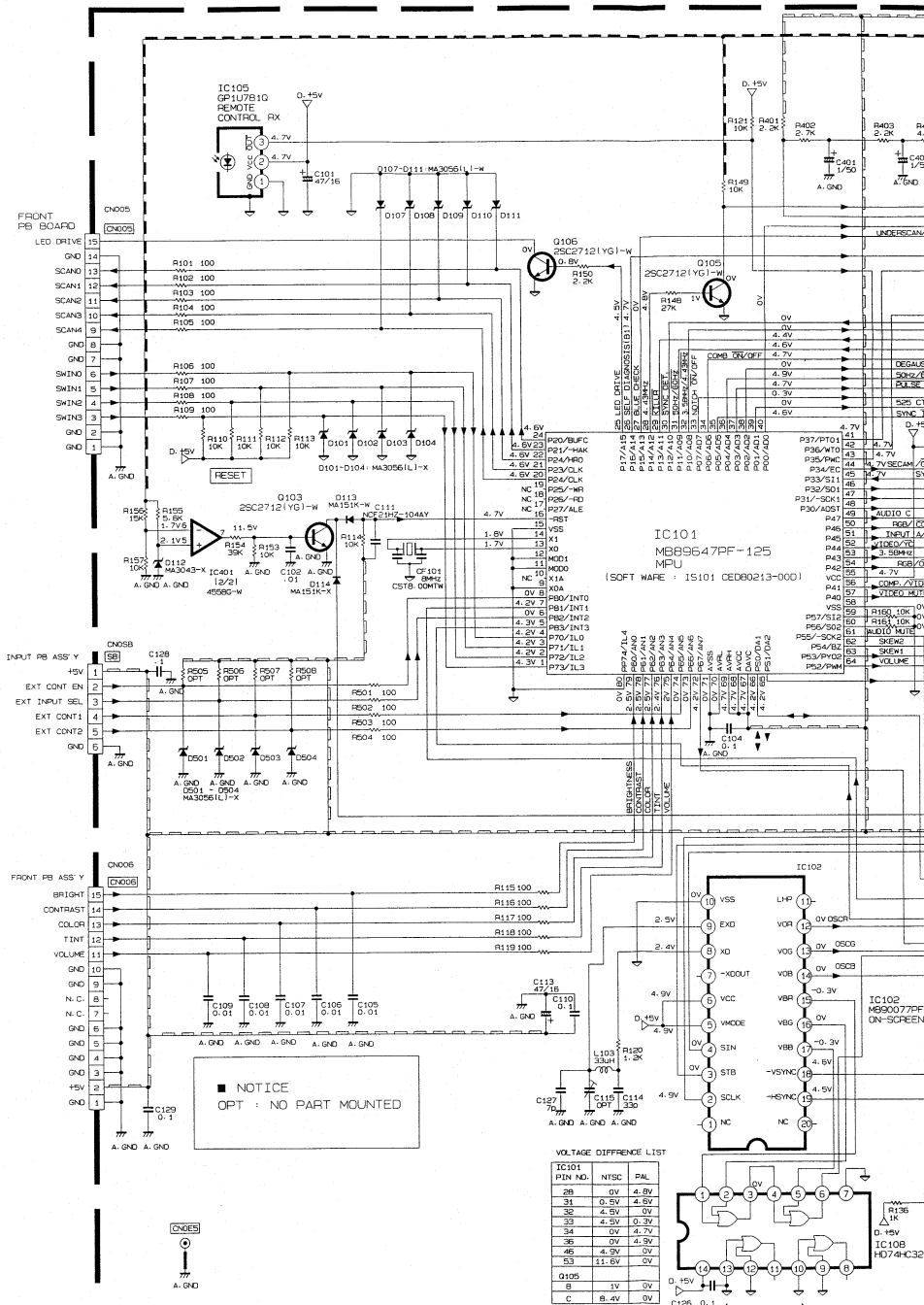
MICOM (MPU) PWB PATTERN DIAGRAM (FX-5013A)

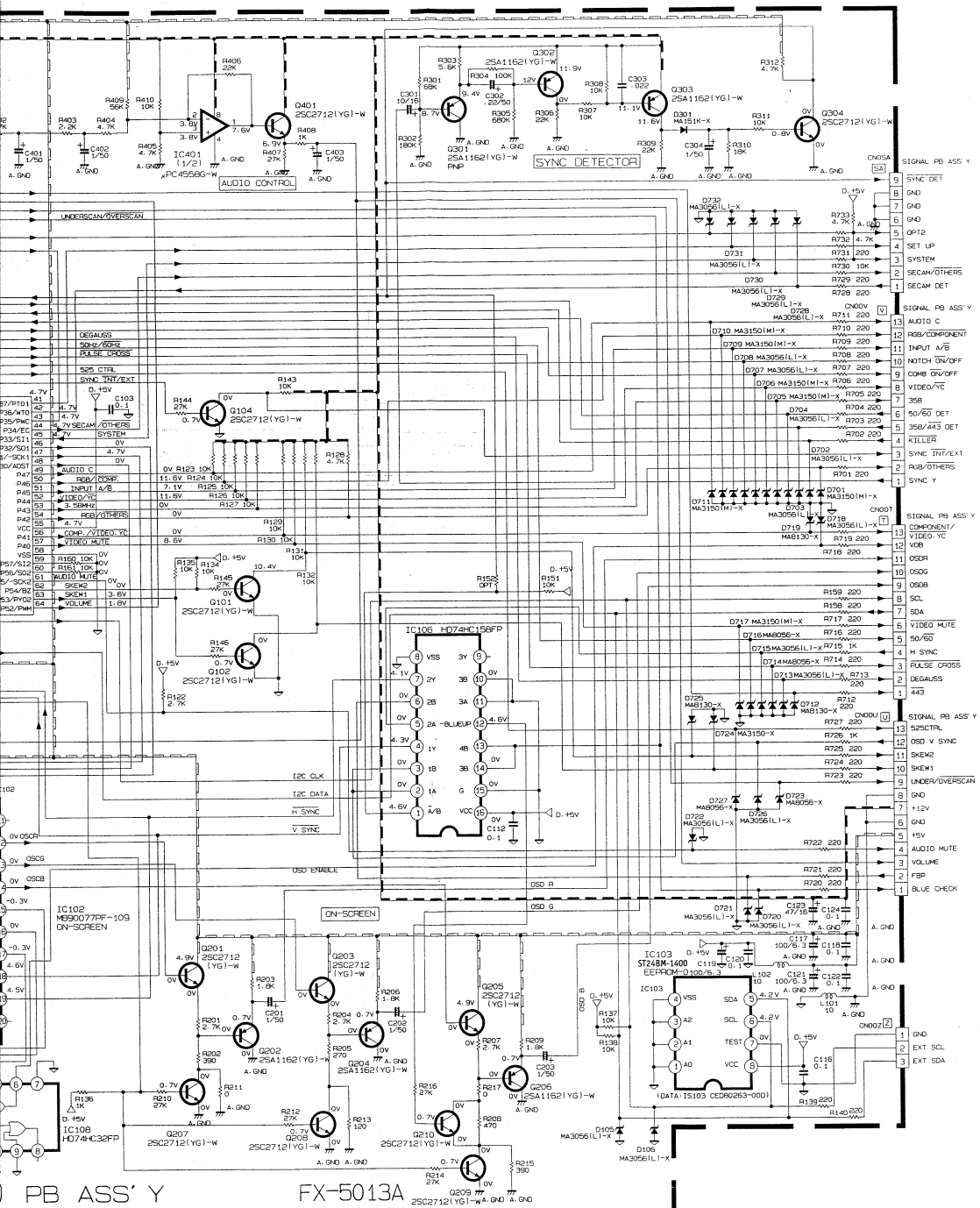


■ ADDRESS TABLE

SYMBOL No.	ADDRESS	SIDE	SYMBOL No.	ADDRESS	SIDE	SYMBOL No.	ADDRESS	SIDE	SYMBOL No.	ADDRESS	SIDE
C102	H1	A	D724	H0	A	R127	E0	B	R405	H1	B
C103	E1	B	D725	G1	A	R128	E0	B	R406	G1	A
C104	E1	B	D726	H0	A	R129	E0	B	R407	H2	A
C105	G2	B	D727	H1	A	R130	E0	B	R408	H1	B
C106	G2	B	D728	B1	A	R131	E0	B	R409	H1	B
C107	G2	B	D729	B1	A	R132	E0	B	R410	H1	B
C108	G2	B	D730	B1	A	R134	E0	B	R501	D1	B
C109	H2	B	D731	B1	A	R135	E0	B	R502	D1	B
C110	F1	B	D732	B1	A	R136	G0	A	R503	E1	B
C111	D1	B	IC101	E1	A	R137	C0	B	R504	E1	B
C112	H0	B	IC102	F1	A	R138	C0	B	R505	A1	B
C114	F1	B	IC106	H0	B	R139	B0	B	R506	A1	B
C116	C0	B	IC108	F0	B	R140	B0	B	R507	A1	B
C118	H1	B	IC401	H1	A	R143	D1	B	R508	A1	B
C120	H2	B	L101	H0	B	R144	C0	B	R701	D1	B
C122	H1	B	L102	H2	B	R145	E0	B	R702	C0	B
C124	H1	B	L103	F1	B	R146	E0	B	R703	C1	B
C126	F0	B	Q101	E0	B	R148	C0	B	R704	C0	B
C127	F1	B	Q102	C0	B	R149	B0	B	R705	C0	B
C128	C1	B	Q103	G2	A	R150	B1	A	R706	C0	B
C129	H2	B	Q104	D1	B	R151	H0	B	R707	C0	B
C303	C1	B	Q105	B0	B	R152	H0	B	R708	C0	B
D101	A1	A	Q106	B0	B	R153	H1	A	R709	C1	B
D102	B2	A	Q201	G1	A	R154	G1	A	R710	C0	B
D103	A2	A	Q202	G1	A	R155	G1	B	R711	C0	B
D104	A2	A	Q203	G0	A	R156	G1	B	R712	G1	B
D105	A1	B	Q204	G0	A	R157	G1	A	R713	G0	B
D106	A1	B	Q205	F1	A	R158	G1	B	R714	G1	B
D107	A1	A	Q206	G2	A	R159	G0	B	R715	G0	B
D108	A2	A	Q207	G0	A	R160	E1	B	R716	G1	B
D109	A1	A	Q208	G0	A	R161	E1	B	R717	G0	B
D110	A2	A	Q209	G0	A	R201	G1	A	R718	G0	B
D111	A1	A	Q210	F1	A	R202	G0	A	R719	G1	B
D112	H2	A	Q301	D1	B	R203	F1	A	R720	H0	A
D113	H2	A	Q302	D1	A	R204	G0	A	R721	H0	A
D114	H2	B	Q303	C1	B	R205	G0	A	R722	H0	A
D301	C1	A	Q304	C1	A	R206	H0	A	R723	G1	B
D501	A1	A	Q401	H1	A	R207	G1	A	R724	H0	A
D502	A1	A	R101	A2	B	R208	G1	A	R725	G1	B
D503	A1	A	R102	A2	B	R209	G1	A	R726	H0	A
D504	A1	A	R103	A2	B	R210	G0	A	R727	H1	B
D701	D0	A	R104	B2	B	R211	G0	A	R728	B1	B
D702	C0	A	R105	A2	B	R212	G0	A	R729	B1	B
D703	B0	A	R106	B2	B	R213	H0	A	R730	B1	B
D704	C0	A	R107	A2	B	R214	G0	A	R731	B1	B
D705	B1	A	R108	A2	B	R215	G1	A	R732	B1	B
D706	C0	A	R109	A2	B	R216	F1	A	R733	B1	B
D707	C0	A	R110	B2	B	R217	G1	A			
D708	C0	A	R111	A2	B	R301	D1	B			
D709	C0	A	R112	A2	B	R302	C1	B			
D710	C0	A	R113	A2	B	R303	C1	B			
D711	C0	A	R114	D1	B	R304	D1	B			
D712	G1	A	R115	G2	B	R305	D1	B			
D713	G0	A	R116	G2	B	R306	C1	A			
D714	G1	A	R117	G2	B	R307	C1	A			
D715	G0	A	R118	G2	B	R308	C1	A			
D716	G1	A	R119	G2	B	R309	C1	B			
D717	G0	A	R120	F1	B	R310	C1	B			
D718	G0	A	R121	H0	B	R311	C1	B			
D719	G1	A	R122	E0	B	R312	B1	B			
D720	H0	A	R123	E0	B	R401	H0	B			
D721	H0	A	R124	E0	B	R402	H0	B			
D722	H0	A	R125	E0	B	R403	H0	B			
D723	G1	A	R126	E0	B	R404	H0	B			

※This table shows only chip components

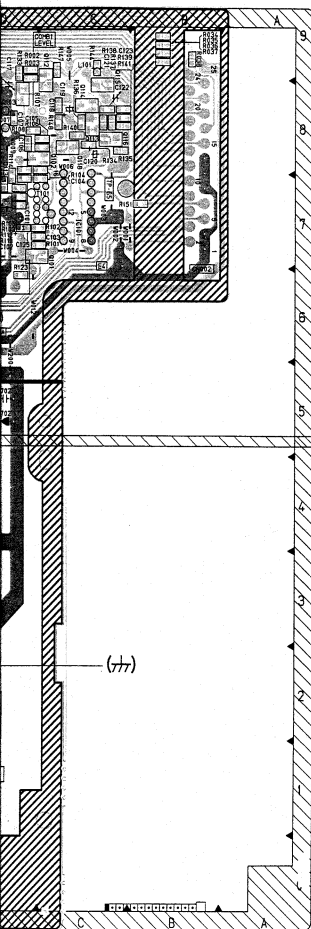




■ ADDRESS TABLE

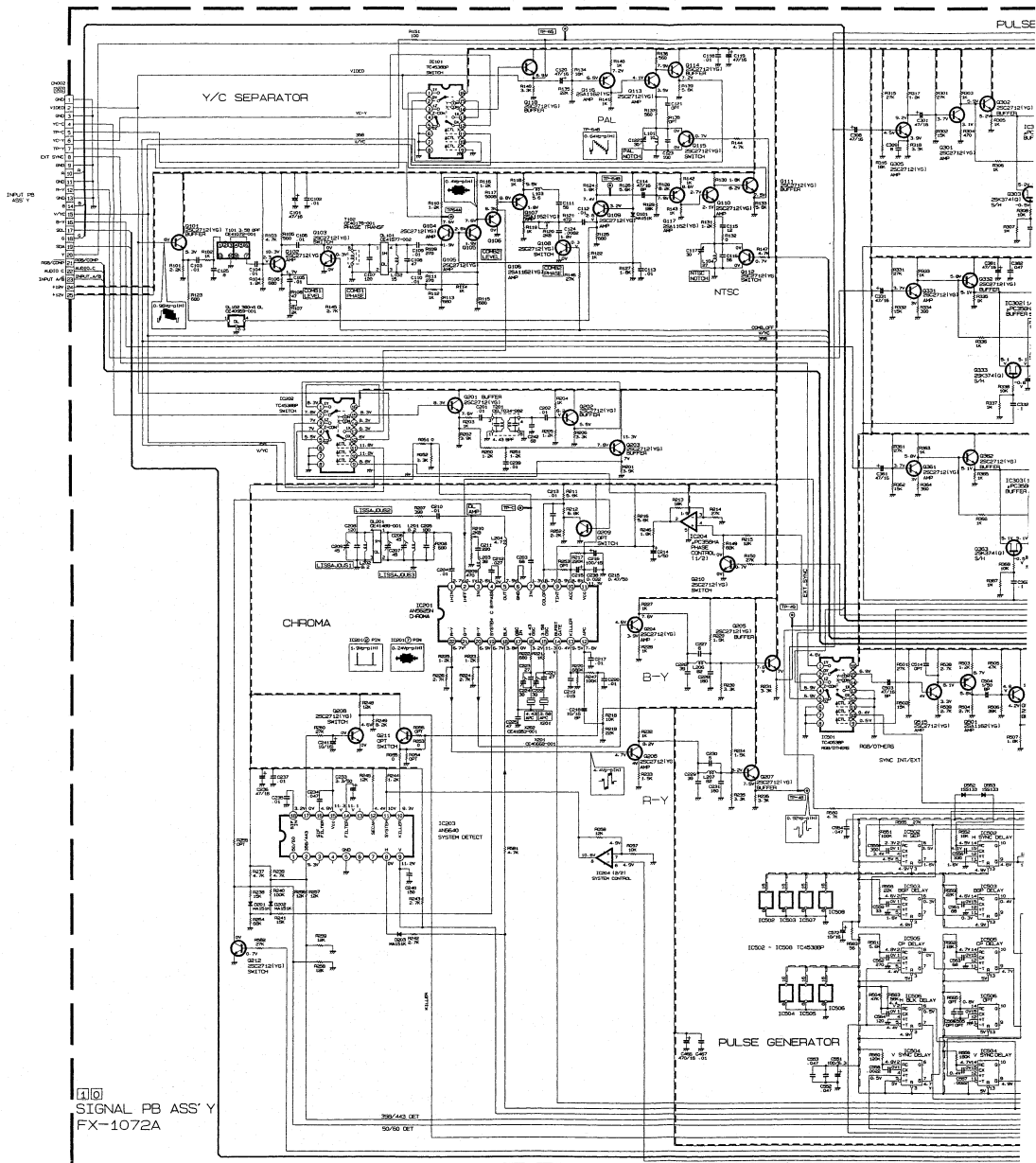
SIMBL. No.	ADDRESS	SIZE	SIMBL. No.	ADDRESS	SIZE	SIMBL. No.	ADDRESS	SIZE	SIMBL. No.	ADDRESS	SIZE	SIMBL. No.	ADDRESS	SIZE	SIMBL. No.	ADDRESS	SIZE
C102	D7	B	C589	H2	B	G507	I6	B	R140	C8	B	R213	L7	B	R507	I5	B
C103	D7	B	C570	H1	B	G505	I7	B	R141	C8	B	R214	M6	B	R508	I7	B
C104	C8	B	C571	I2	B	G509	M6	B	R142	E9	B	R215	K3	B	R509	M6	B
C105	C8	B	C575	I7	B	G510	I6	B	R143	E9	B	R216	L3	B	R510	M6	B
C106	D6	B	C682	M2	B	G511	I6	B	R144	C9	B	R217	L3	B	R511	I8	B
C107	D6	B	C683	M1	B	G512	I7	B	R145	E9	B	R218	L3	B	R512	I7	B
C108	D6	B	C611	W2	B	G513	I6	B	R146	E9	B	R219	M6	B	R513	I7	B
C109	D6	B	D101	E3	B	G514	I6	B	R147	C9	B	R220	M6	B	R514	I7	B
C110	D6	B	D201	M6	B	G515	I8	B	R148	C9	B	R221	M6	B	R515	I7	B
C111	E7	B	D202	M6	B	G551	I1	B	R149	F6	B	R222	L7	B	R516	I7	B
C112	D7	B	D203	G6	B	R002	D9	B	R150	E6	B	R231	K3	B	R517	I7	B
C113	D7	B	D451	L2	B	R003	D9	B	R151	B7	B	R232	K3	B	R518	I7	B
C115	D9	B	D452	M4	B	R004	D7	B	R201	G6	B	R233	K3	B	R519	I8	B
C116	D9	B	D453	L4	B	R005	E6	B	R202	F6	B	R234	K3	B	R520	M6	B
C118	C3	B	D454	K4	B	R006	E6	B	R203	F6	B	R235	L3	B	R521	I6	B
C121	C8	B	D455	K5	B	R009	M6	B	R204	F5	B	R236	L3	B	R522	I6	B
C123	C3	B	D456	L5	B	R010	K6	B	R205	F5	B	R237	L3	B	R523	I6	B
C124	E7	B	D501	I7	B	R011	J6	B	R206	F6	B	R238	L3	B	R524	I6	B
C125	D7	B	D502	I5	B	R012	J6	B	R207	F7	B	R239	L7	B	R525	I7	B
C201	F6	B	D554	H2	B	R013	M6	B	R208	F6	B	R240	K3	B	R526	I7	B
C202	F6	B	D101	D7	B	R015	J6	B	R209	F6	B	R241	K7	B	R527	I7	B
C203	F7	B	D102	D8	B	R020	I3	B	R211	G7	B	R242	L7	B	R528	I6	B
C204	G6	B	D103	D8	B	R021	M2	B	R212	G7	B	R243	K7	B	R529	I7	B
C205	F8	B	D104	D7	B	R022	H4	B	R213	F7	B	R244	L6	B	R530	I6	B
C206	F7	B	D105	D7	B	R023	H3	B	R214	F7	B	R245	L6	B	R531	M6	B
C210	F7	B	D106	D7	B	R024	H4	B	R215	F6	B	R246	L6	B	R532	I6	B
C211	F8	B	D107	D7	B	R025	H4	B	R216	G7	B	R261	J5	B	R533	I6	B
C212	G6	B	D108	E7	B	R026	I4	B	R217	G7	B	R262	J8	B	R534	I6	B
C213	G7	B	D109	C9	B	R027	J4	B	R218	M6	B	R263	K3	B	R535	I6	B
C217	G6	B	D110	E9	B	R028	H4	B	R219	G6	B	R264	J5	B	R536	I6	B
C220	G6	B	D111	D9	B	R029	J4	B	R220	G7	B	R265	K8	B	R537	I6	B
C221	H7	B	D112	C9	B	R030	J4	B	R221	G7	B	R266	K8	B	R538	I6	B
C223	H7	B	D113	C8	B	R031	K3	B	R222	G7	B	R267	K8	B	R539	I6	B
C225	G7	B	D114	C8	B	R032	M4	B	R223	G6	B	R268	K8	B	R540	I6	B
C226	G6	B	D115	C9	B	R033	M4	B	R224	G6	B	R269	K7	B	R541	I6	B
C227	G6	B	D116	C8	B	R034	B9	B	R225	G6	B	R270	J8	B	R542	I6	B
C228	G8	B	D117	E8	B	R035	B9	B	R226	G6	B	R271	J7	B	R543	K4	B
C229	G6	B	D118	C8	B	R036	B9	B	R227	G6	B	R272	J7	B	R544	L4	B
C230	M6	B	D201	F4	B	R037	B9	B	R228	G6	B	R273	J7	B	R545	M6	B
C231	G8	B	D202	E6	B	R038	B9	B	R229	G6	B	R274	K6	B	R546	J3	B
C234	M6	B	D203	G5	B	R039	F6	B	R230	G6	B	R275	K6	B	R547	L2	B
C235	M6	B	D204	G6	B	R052	F7	B	R231	G6	B	R276	K6	B	R548	I7	B
C237	G6	B	D205	G8	B	R053	G6	B	R232	M6	B	R281	K7	B	R551	M4	B
C238	G6	B	D206	H8	B	R055	F7	B	R233	M6	B	R282	K8	B	R552	I4	B
C239	F5	B	D207	H8	B	R056	M3	B	R234	M6	B	R283	J6	B	R553	M2	B
C240	G5	B	D208	H8	B	R057	F7	B	R235	G6	B	R401	K4	B	R554	M2	B
C242	F6	B	D209	G7	B	R058	F7	B	R236	G6	B	R402	K3	B	R555	M4	B
C309	L5	B	D210	F4	B	R101	D7	B	R237	M5	B	R403	K4	B	R556	J2	B
C302	J7	B	D102	H5	B	R102	D7	B	R238	M6	B	R404	K4	B	R557	M4	B
C383	K6	B	D301	L8	B	R103	D6	B	R239	M6	B	R405	K3	B	R558	M3	B
C402	L5	B	D302	M6	B	R104	C8	B	R240	M6	B	R406	L3	B	R559	J2	B
C407	K3	B	D303	M6	B	R105	D6	B	R241	G8	B	R407	L4	B	R561	J2	B
C453	K3	B	D304	M6	B	R106	C8	B	R242	G6	B	R408	L4	B	R562	J2	B
C454	K3	B	D305	L8	B	R108	D6	B	R243	G6	B	R409	L4	B	R563	J3	B
C467	K3	B	D306	M7	B	R109	D7	B	R244	G6	B	R410	L4	B	R564	J3	B
C469	K2	B	D308	M7	B	R110	D7	B	R245	G6	B	R451	K4	B	R565	J3	B
C470	I1	B	D331	K6	B	R112	D7	B	R246	F6	B	R453	K3	B	R566	H2	B
C502	I7	B	D332	L8	B	R113	D7	B	R247	G6	B	R454	K3	B	R567	H2	B
C505	H7	B	D333	L8	B	R114	D6	B	R248	H5	B	R455	K2	B	R568	H1	B
C508	I8	B	D334	C9	B	R115	D8	B	R249	H5	B	R456	K4	B	R569	H1	B
C509	I6	B	D361	J8	B	R116	D7	B	R250	F6	B	R457	K4	B	R571	M1	B
C511	I6	B	D362	K8	B	R118	D7	B	R251	F6	B	R458	K3	B	R572	I2	B
C512	I6	B	D363	K8	B	R119	E7	B	R252	G7	B	R459	K3	B	R573	I4	B
C513	I6	B	D364	K8	B	R121	E7	B	R253	G7	B	R460	I1	B	R574	J4	B
C514	I6	B	D451	L3	B	R122	E6	B	R254	G6	B	R461	I6	B	R575	I1	B
C516	I7	B	D452	K3	B	R123	D6	B	R255	G6	B	R462	K2	B	R576	I4	B
C517	M6	B	D453	K3	B	R124	E6	B	R256	M6	B	R463	K2	B	R577	H2	B
C522	I1	B	D454	K3	B	R125	D6	B	R257	M7	B	R464	K2	B	R578	H2	B
C553	I4	B	D455	L4	B	R126	E6	B	R258	M7	B	R465	K2	B	R579	L2	B
C554	I4	B	D456	L4	B	R127	D7	B	R259	H7	B	R466	K2	B	R580	I4	B
C555	I4	B	D457	L4	B	R128	E6	B	R260	M6	B	R467	K2	B	R581	G7	B
C556	M4	B	D458	L4	B	R129	E6	B	R301	L8	B	R468	I6	B	R582	M1	B
C557	J2	B	D459	L4	B	R130	E9	B	R302	L3	B	R470	L4	B	R583	I1	B
C558	J2	B	D460	L4	B	R131	D9	B	R303	L3	B	R471	L4	B	R584	I6	B
C559	M4	B	D461	L4	B	R132	D9	B	R304	L3	B	R472	L4	B	R585	I6	B
C561	H3	B	D462	L3	B	R133	D9	B	R305	L3	B	R473	L4	B	R586	M1	B
C562	J2	B	D501	I7	B	R134	C9	B	R306	M6	B	R501	I8	B	R587	M1	B
C563	J2	B	D502	I9	B	R135	C9	B	R307	M6	B	R502	I8	B	R588	M1	B
C564	J3	B	D503	I9	B	R136	C9	B	R308	L7	B	R503	I8	B	R589	M1	B
C565	J3	B	D504	I7	B	R137	C9	B	R310	L8	B	R504	I8	B	R590	M1	B
C566	J3	B	D505	I7	B	R138	C9	B	R311	L7	B	R505	I8	B	R591	M1	B
C568	H2	B	D506	I7	B	R139	C9	B	R312	L7	B	R506	I8	B	R592	M1	B

※This table shows only chip components

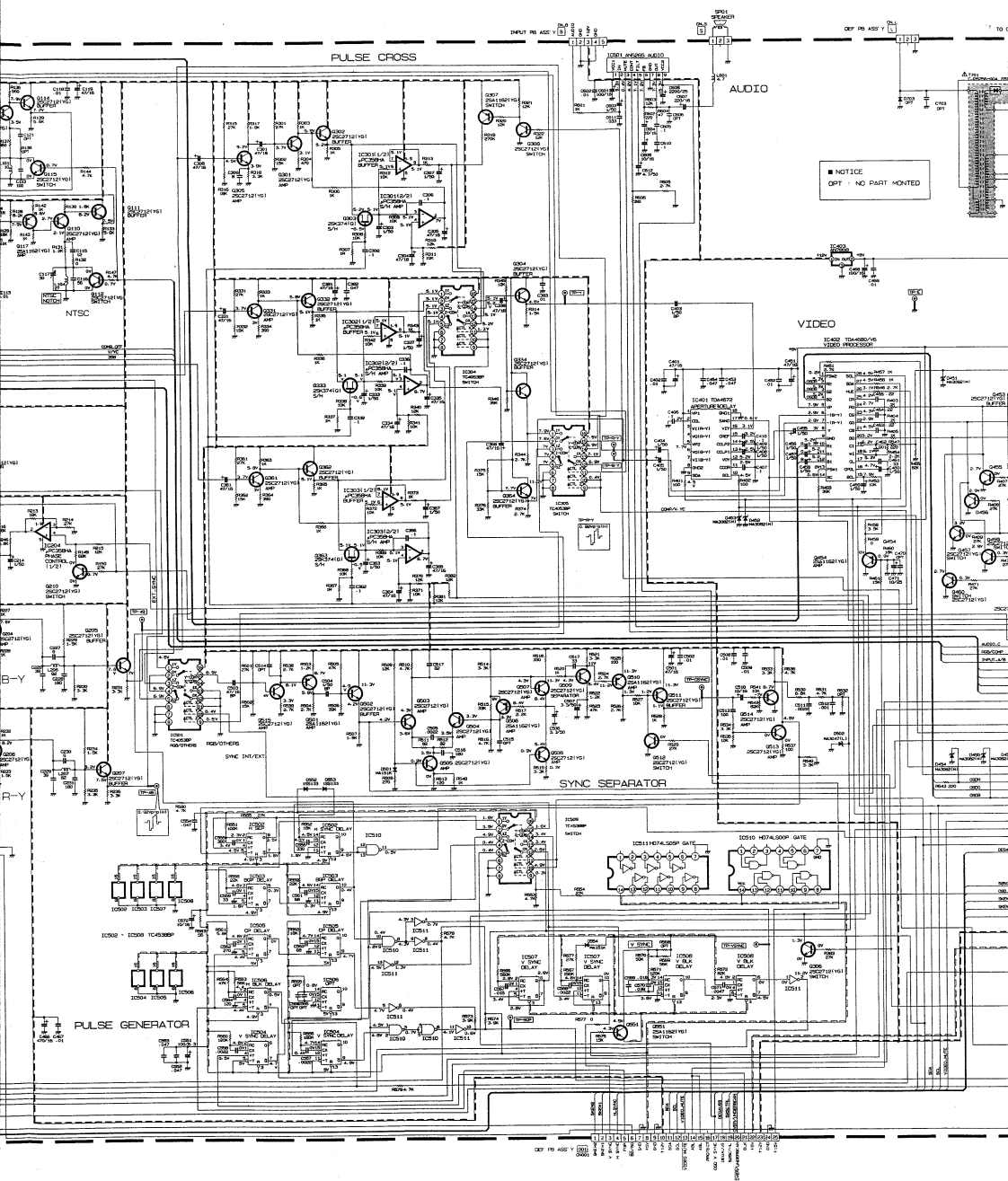


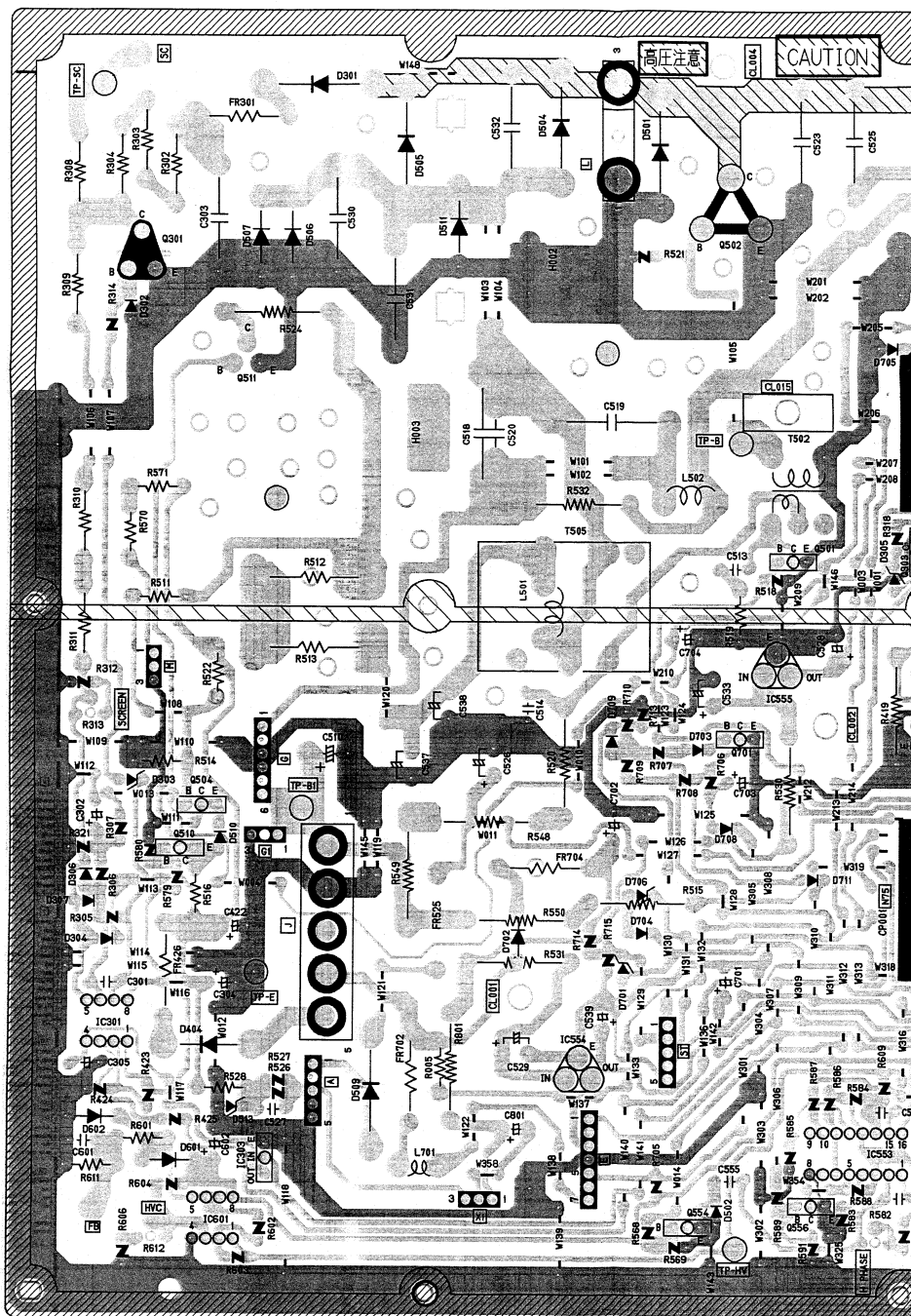
C B A

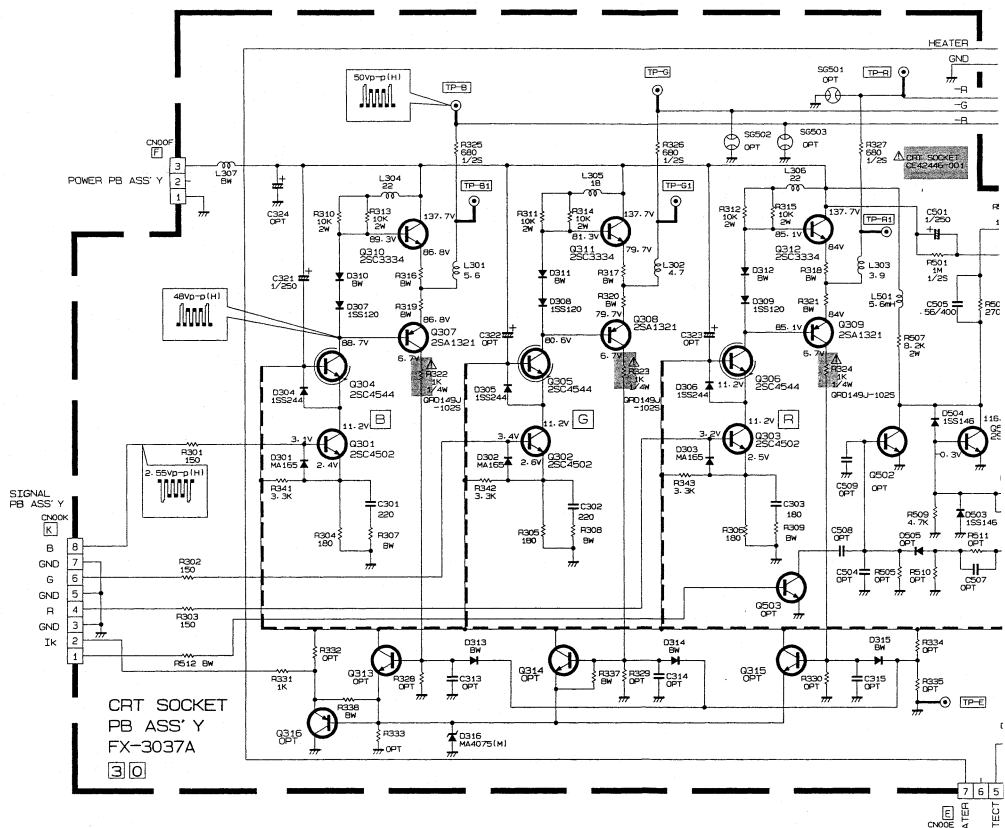
SIGNAL PWB CIRCUIT DIAGRAM



10
SIGNAL PB ASS'Y
FX-1072A



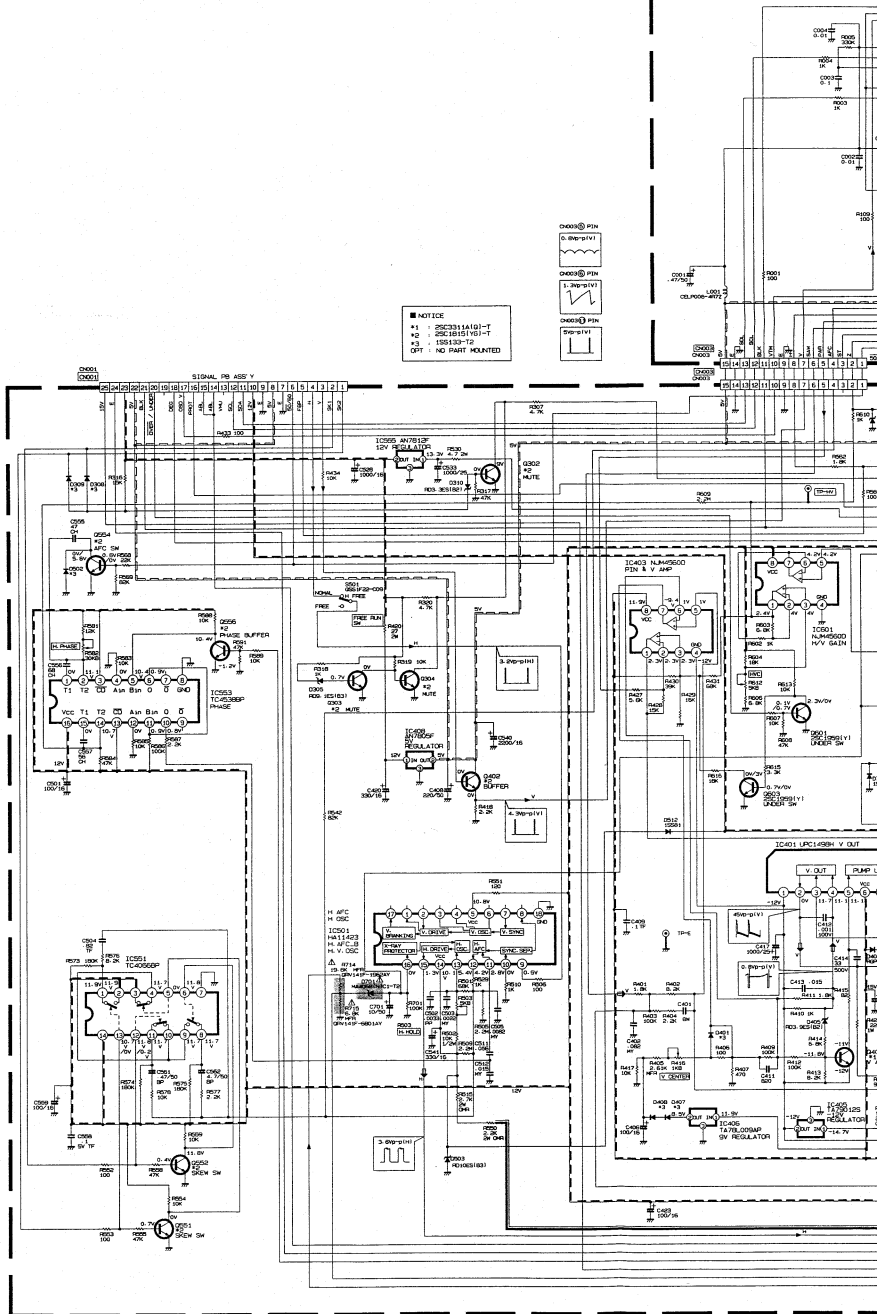




DEFLECTION PWB CIRCUIT DIAGRAM

V. SAW MODULE PB ASS'Y
FX-M004A

MO



DEFLECTION PB ASS'Y ②①FX-2033A(1/2)

PARTS LIST

CAUTION

- The parts identified by the Δ symbol are important for the safety. Whenever replacing these parts, be sure to use specified ones to secure the safety.
- The parts not indicated in this Parts List and those which are filled with lines — in the Parts No. columns will not be supplied.
- P. W. Board Ass'y will not be supplied, but those which are filled with the Parts No. in the Parts No. columns will be supplied.
- As a rule, the resistors and capacitors which are indicated as shown in "HOW TO EXPRESS PARTS NUMBERS OF STANDARD PARTS" are not shown in the list of the parts on the board.

When ordering the service parts, confirm the resistance/rated power, capacitance/rated voltage, and type of the parts, then order by the part No. indicated according to "HOW TO EXPRESS PARTS NUMBERS OF STANDARD PARTS".

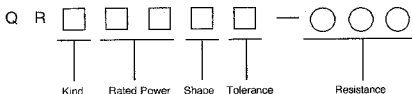
ABBREVIATIONS OF RESISTORS, CAPACITORS AND TOLERANCES

RESISTORS		CAPACITORS	
C R	Carbon Resistor	C CAP.	Ceramic Capacitor
F R	Fusible Resistor	E CAP.	Electrolytic Capacitor
P R	Plate Resistor	M CAP.	Mylar Capacitor
V R	Variable Resistor	HV CAP.	High Voltage Capacitor
HV R	High Voltage Resistor	MF CAP.	Metallized Film Capacitor
MF R	Metal Film Resistor	MM CAP.	Metallized Mylar Capacitor
MG R	Metal Glazed Resistor	MP CAP.	Metallized Polystyrol Capacitor
MP R	Metal Plate Resistor	PP CAP.	Polypropylene Capacitor
OM R	Metal Oxide Film Resistor	PS CAP.	Polystyrol Capacitor
CMF R	Coating Metal Film Resistor	TF CAP.	Thin Film Capacitor
UNF R	Non-Flammable Resistor	MPP CAP.	Metallized Polypropylene Capacitor
CH V R	Chip Variable Resistor	TAN. CAP.	Tantalum Capacitor
CH MG R	Chip Metal Glazed Resistor	CH C CAP.	Chip Ceramic Capacitor
COMP. R	Composition Resistor	BP E CAP.	Bi-Polar Electrolytic Capacitor
LPTC R	Linear Positive Temperature Coefficient Resistor	CH AL E CAP.	Chip Aluminum Electrolytic Capacitor
		CH AL BP CAP.	Chip Aluminum Bi-Polar Capacitor
		CH TAN. E CAP.	Chip Tantalum Electrolytic Capacitor
		CH AL BP E CAP.	Chip Tantalum Bi-Polar Electrolytic Capacitor

TOLERANCES									
F	G	J	K	M	N	R	H	Z	P
$\pm 1\%$	$\pm 2\%$	$\pm 5\%$	$\pm 10\%$	$\pm 20\%$	$\pm 30\%$	+ 30% - 10%	+ 50% - 10%	+ 80% - 20%	+ 100% - 0%

HOW TO EXPRESS PARTS NUMBERS OF STANDARD PARTS

■ RESISTOR



Symbol	Part Name
C	COMP.R
D	C.R
S	CH.MG.R

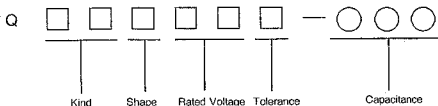
Symbol	Rated Power
0.1	1 w
1/2	1/2 w
1/4	1/4 w
1/6	1/6 w
1/8	1/8 w

Symbol	Shape
1	Straight lead
8	Chip

Indicate with first two-figure expressed by Ω and following 0.
 please note that, in case of resistance less than 10 Ω , a letter "R" will be effective as point.

EX.
 $2.2 \Omega = 2R2$
 $470 \Omega = 47 \times 10^1 \rightarrow 471$
 $150k\Omega = 15 \times 10^4 \rightarrow 154$

■ CAPACITOR



Symbol	Part Name
CS	C CAP.
CS	CH.C CAP.
ET	E CAP.
FM	M CAP.

S Figure	S Figure		
	0	1	2
A		10V	100V
C		16V	160V
D			200V
E		25V	250V
H		50V	500V
J	6.3V	63V	
V		35V	

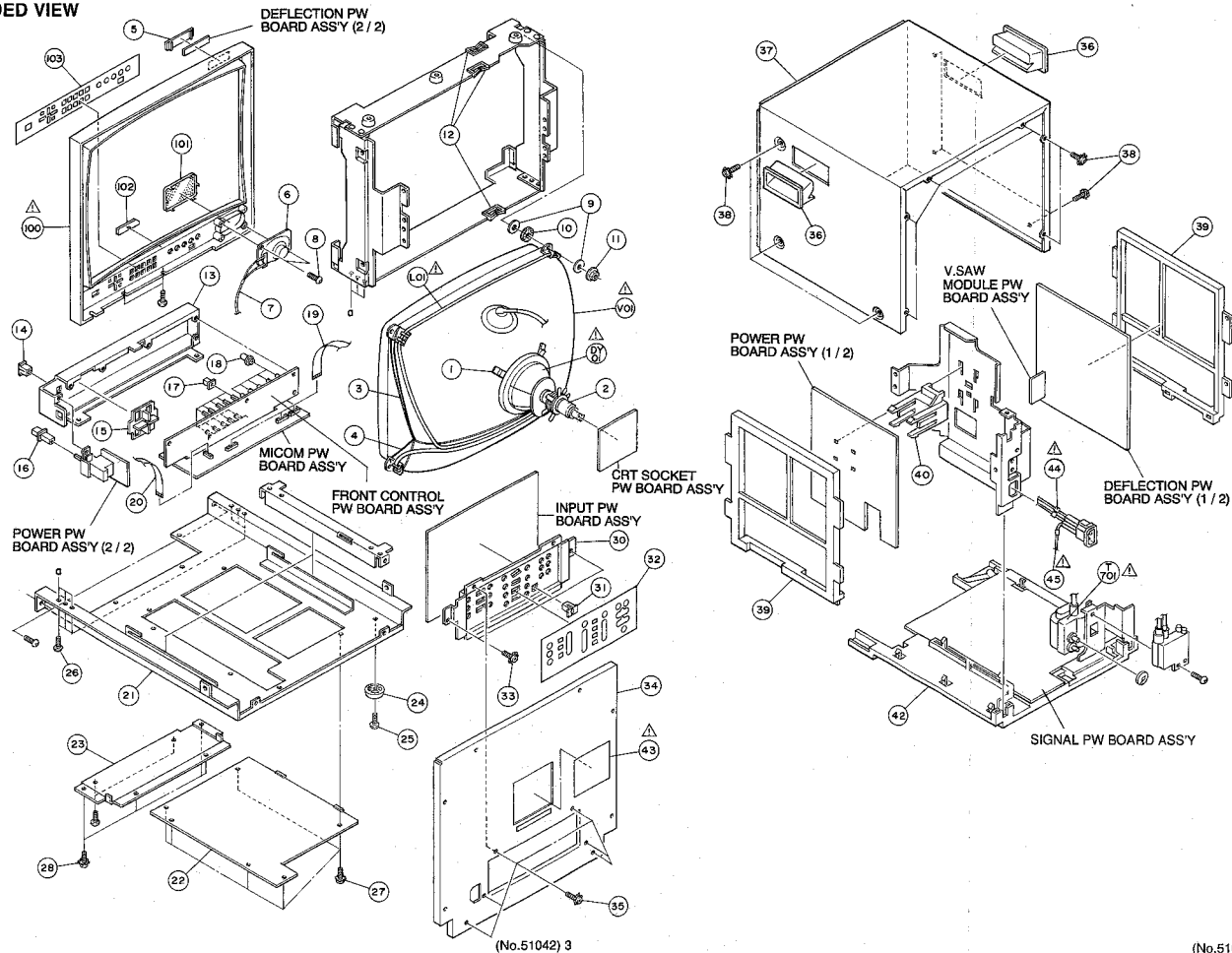
Indicate with first two-figure expressed by pF and following 0.

Please note that, in case of capacitance less than 10 pF a letter "R" will be effective as point.

EX.
 $5pF = 5R0$
 $1000pF = 10 \times 10^2 \rightarrow 102$
 $47pF = 47 \times 10^0 \rightarrow 476$

Symbol	Shape
1	Straight lead
1	Leads in the same direction
8	Chip
A	Leads in the same direction (compact part)

EXPLODED VIEW



EXPLODED VIEW PARTS LIST

△ Ref. No.	Part No.	Part Name	Description	Local
△ V01	M40JBVD2X/E	C R T		
△ DV01	C328229-00A	DEF YOKE		
△ L01	CEL0056-001	DEG COIL		
△ T701	C328296-00A	FBI		
1	CE40764-00A	WEDGE ASSY	× 3	
2	CE42378-00B	P.C. MAGNET		
3	CHG80015-0B-G	BRAIDED ASSY		
4	CHG80017-0C-N	BRAIDED SUB ASSY	× 2	
5	CM44530-E01	TALLY PLATE		
6	9050-03T	CONE SPEAKER	SP01	
7	CHG50003-0G-G	S.P. WIRE ASSY		
8	SBSF40122	T.SCREW	× 2	
9	Q03001-152	WASHER	× 8	
10	A48094-1	RUBBER BUSHING	× 4	
11	NFS8000Z	FLANGE NUT	× 4	
12	CM41993-001	EDGE SADDLE	× 3	
13	CM22909-001	CONTROL BRACKET		
14	CM48005-001	LINKAGE BUSHING		
15	CM36251-001	CURSOR KNOB		
16	CM46115-001	POWER KNOB		
17	CM46044-001	PUSH KNOB	× 10	
18	CM47853-002	VOLUME KNOB	× 5	
19	CHFB113-180D-N	FFC WIRE	× 3	
20	CHFB109-248D-N	FFC WIRE		
21	CM12694-A0A	BOTTOM BASE ASSY		
22	CM22919-001	BOTTOM SHIELD		
23	CM36249-A01	SHIELD COVER		
24	CM40054-00F	FOOT ASSY	× 4	
25	SBSF40122	T.SCREW	× 4	
26	SBSF40122	T.SCREW	× 6	
27	SBSF40122	T.SCREW	× 6	
28	SBSF40122	T.SCREW	× 4	
30	CM35946-A01	TERMINAL PANEL		
31	CM48005-001	LINKAGE BUSHING		
32	CM35944-A01	TERMINAL SHEET		
33	CM44287-00C	ASSY SCREW	× 2	
34	CM41269-00A	REAR PANEL ASSY		
36	CM44287-00C	ASSY SCREW	× 8	
36	CM35326-A01	HANDLE	× 2	
37	CM12690-001	TOP COVER		
38	CM44287-00C	ASSY SCREW	× 12	
39	CM12530-A01-V0	PB BASE		
40	CM2762-001-V0	TRANSF. HOLDER		
41	ONCB004-001	SP INLET		
42	CM12631-001-V0	CHASSIS BASE		
△ 43	CM22867-007(R)	ROLL R LABEL		
△ 44	CHGY0032-0A-G	CONNECTOR ASSY		
△ 45	CHGY0033-0A-G	RECEP WIRE ASSY		
△ 100	CM12697-A0B-M0	FRONT PANEL ASSY	Inc. No. 101-103	
101	CM47847-001	SPEAKER NET		
102	CM43094-001	JVC MARK		
103	CM22912-001	CONTROL SHEET		

PRINTED WIRING BOARD PARTS LIST

SIGNAL PW BOARD ASS'Y (FX-1072A)

△ Symbol No.	Part No.	Part Name	Description	Local
VARIABLE RESISTOR				
R1107	QVPC611-202HZ	V R	2kΩ B COMB1 LEVEL	
R1117	QVPC111-501HZ	V R	50kΩ B COMB2 LEVEL	
R1120	QVPC611-202HZ	V R	2kΩ B COMB2 PHASE	
R1210	QVPC611-202HZ	V R	2kΩ B 0L AMP	
R1570	QVPC611-503HZ	V R	50kΩ B V.SYNC	
CAPACITOR				
C1102-06	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1107	NCT03CH-121AY	CHIP CAP.	120pF 1600V H	
C1108	NCT03CH-470AY	CHIP CAP.	47pF 1600V H	
C1109-10	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1111	NCT03CH-560AY	CHIP CAP.	56pF 1600V H	
C1112-13	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1114	QEN61CM-476Z	BP CAP.	47μF 16V M	
C1115	NCT03CH-120AY	CHIP CAP.	12pF 1600V H	
C1116	NCT03CH-560AY	CHIP CAP.	56pF 1600V H	
C1117	QAT3110-300A	TRIM.CAP.	30pF NTSC NOTCH	
C1118	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1122	QAT3110-300A	TRIM.CAP.	30pF PAL NOTCH	
C1123	NCT03CH-101AY	CHIP CAP.	100pF 1600V H	
C1124	NCB21HK-822AY	CHIP CAP.	8200pF 50V K	
C1125	NCT03CH-8R0AY	CHIP CAP.	8pF 1600V H	
C1201-02	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1203	NCT03CH-8R0AY	CHIP CAP.	88pF 1600V H	
C1204	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1205	NCT03CH-101AY	CHIP CAP.	100pF 1600V H	
C1206	QAT3110-450A	TRIM.CAP.	45pF LISSAJOUS3	
C1207	QAT3110-450A	TRIM.CAP.	45pF LISSAJOUS2	
C1208	NCT03CH-121AY	CHIP CAP.	120pF 1600V H	
C1209	QAT3110-450A	TRIM.CAP.	45pF LISSAJOUS1	
C1210	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1211	NCT03CH-221AY	CHIP CAP.	220pF 1600V H	
C1212	NCB21HK-273AY	CHIP CAP.	0.027μF 50V K	
C1213	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1217	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1218	QEN61CM-106Z	BP CAP.	10μF 16V H	
C1219	QFLC1HJ-153MZ	M CAP.	0.015μF 50V J	
C1220	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1221	NCT03CH-270AY	CHIP CAP.	27pF 1600V H	
C1222	QAT3110-300A	TRIM.CAP.	30pF 3.58APC	
C1223	NCT03CH-270AY	CHIP CAP.	27pF 1600V H	
C1224	QAT3110-300A	TRIM.CAP.	30pF 4.43APC	
C1225	NCT03CH-470AY	CHIP CAP.	47pF 1600V H	
C1226	NCT03CH-390AY	CHIP CAP.	39pF 1600V H	
C1227	NCT03CH-8R0AY	CHIP CAP.	8pF 1600V H	
C1228	NCT03CH-181AY	CHIP CAP.	180pF 1600V H	
C1229	NCT03CH-390AY	CHIP CAP.	39pF 1600V H	
C1230	NCT03CH-8R0AY	CHIP CAP.	8pF 1600V H	
C1231	NCT03CH-181AY	CHIP CAP.	180pF 1600V H	
C1234	NCB21HK-473AY	CHIP CAP.	0.047μF 50V K	
C1235	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1237	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1238	NCB21HK-223AY	CHIP CAP.	0.022μF 50V K	
C1239	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1240	NCT03CH-151AY	CHIP CAP.	150pF 1600V H	
C1242	NCT03CH-680AY	CHIP CAP.	88pF 1600V H	
QFV71HJ-104MZ		TF CAP.	0.1μF 50V J	
C1306	QFV71HJ-104MZ	TF CAP.	0.1μF 50V J	
C1309	NCT03CH-8R0AY	CHIP CAP.	8pF 1600V H	
C1332	QFV71HJ-104MZ	TF CAP.	0.1μF 50V J	
C1336	QFV71HJ-104MZ	TF CAP.	0.1μF 50V J	
C1362	QFV71HJ-104MZ	TF CAP.	0.1μF 50V J	
C1368	QFV71HJ-104MZ	TF CAP.	0.1μF 50V J	

Symbol	No.	Part No.	Part Name	Description	Local
CAPACITOR					
C1382		NCB21HK-473AY	CHTP CAP.	0.047 μ F 50V	K
C1383		NCB21HK-103AY	CHTP CAP.	0.01 μ F 50V	K
C1402		NCB21HK-103AY	CHTP CAP.	0.01 μ F 50V	K
C1403		QEN61HM-105Z	BP E CAP.	1 μ F 50V	M
C1406-07		QFV71HJ-104MZ	TF CAP.	0.1 μ F 50V	J
C1410		QFV71HJ-104MZ	TF CAP.	0.1 μ F 50V	J
C1452		NCB21HK-103AY	CHIP CAP.	0.01 μ F 50V	K
C1453-54		NCB21HK-473AY	CHIP CAP.	0.047 μ F 50V	K
C1461		QFV71HJ-334MZ	TF CAP.	0.33 μ F 50V	J
C1462		NCB21HK-102AY	CHIP CAP.	1000 pF 50V	K
C1463-65		QFV71HJ-224MZ	TF CAP.	0.22 μ F 50V	J
C1467		NCB21HK-103AY	CHIP CAP.	0.01 μ F 50V	K
C1469		NCB21HK-103AY	CHIP CAP.	0.01 μ F 50V	K
C1502		NCB21HK-103AY	CHIP CAP.	0.01 μ F 50V	K
C1503		QEN61CM-476Z	BP E CAP.	47 μ F 16V	M
C1504		QEN61HM-105Z	BP E CAP.	1 μ F 50V	M
C1505		NCB21HK-222AY	CHIP CAP.	2200 pF 50V	K
C1508-09		NCB21HK-103AY	CHIP CAP.	0.01 μ F 50V	K
C1511		NCB21HK-222AY	CHIP CAP.	2200 pF 50V	K
C1512		NCB21HK-102AY	CHIP CAP.	1000 pF 50V	K
C1513		NCT03CH-101AY	CHIP CAP.	100 pF 1600V	H
C1516		NCT03CH-181AY	CHIP CAP.	180 pF 1600V	H
C1517		NCT03CH-820AY	CHIP CAP.	82 pF 1600V	H
C1562-54		NCB21HK-473AY	CHIP CAP.	0.047 μ F 50V	K
C1555		NCT03CH-391AY	CHIP CAP.	390 pF 1600V	H
C1556		NCT03CH-331AY	CHIP CAP.	330 pF 1600V	H
C1557-58		NCB21HK-222AY	CHIP CAP.	2200 pF 50V	K
C1559		NCT03CH-330AY	CHIP CAP.	33 pF 1600V	H
C1561		NCT03CH-680AY	CHIP CAP.	68 pF 1600V	H
C1562		NCT03CH-271AY	CHIP CAP.	27 pF 1600V	H
C1563		NCT03CH-680AY	CHIP CAP.	68 pF 1600V	H
C1564		NCT03CH-121AY	CHIP CAP.	120 pF 1600V	H
C1567		QFP31HJ-153SZ	PP CAP.	0.015 μ F 50V	J
C1568		NCB21HK-222AY	CHTP CAP.	2200 pF 50V	K
C1569		NCB21HK-183AY	CHTP CAP.	0.018 μ F 50V	K
C1570		NCB21HK-393AY	CHTP CAP.	0.039 μ F 50V	K
C1571		NCB21HK-472AY	CHTP CAP.	4700 pF 50V	K
C1601		QEH61CM-107MZ	E CAP.	100 μ F 16V	M
C1602		NCB21HK-103AY	CHTP CAP.	0.01 μ F 50V	K
C1603		QEH61HM-105MZ	E CAP.	1 μ F 50V	M
C1605		QFV71HJ-104MZ	TF CAP.	0.1 μ F 50V	J
C1607		QEH61CM-227MZ	E CAP.	220 μ F 16V	M
C1610		QFV71HJ-104MZ	TF CAP.	0.1 μ F 50V	J
C1611		NCB21HK-333AY	CHIP CAP.	0.033 μ F 50V	K
C1612		QEH61HM-475MZ	E CAP.	4.7 μ F 50V	M
C1702		QFLC1HK-473MZ	MYLAR CAP.	0.047 μ F 50V	K
TRANSFORMER					
T1101		CE41072-001	B.PASS TRANSF.	COMB1 PHASE	
T1102		CE40176-001	DL P.TRANSF.		
T1201		CELT034-002	B.PASS TRANSF.		
T1701		CJ28256-00A	FBT		
COIL					
L1101		CELP026-100Z	PEAKING COIL	10 μ H	
L1102		CELP026-150Z	PEAKING COIL	15 μ H	
L1103		CELP026-5R6Z	PEAKING COIL	5.6 μ H	
L1104		CELP026-270Z	PEAKING COIL	27 μ H	
L1201-02		CELP026-8R2Z	PEAKING COIL	8.2 μ H	
L1203		CELP026-390Z	PEAKING COIL	39 μ H	
L1204		CELP026-4R7Z	PEAKING COIL	4.7 μ H	
L1206-07		CELP026-820Z	PEAKING COIL	82 μ H	
L1601		CELP026-4R7Z	PEAKING COIL	4.7 μ H	
DIODE					
D1101		MA151K-X	DIODE		

△ Symbol No.	Part No.	Part Name	Description	Local
D I O D E				
D1201-03	MA151K-X	DIODE		
D1461-56	MA3082(M)-X	CHIP ZENER DIODE		
D1601	MA151K-X	DIODE		
D1502	MA3047(L)-X	CHIP ZENER DIODE		
D1552-53	1SS133-T2	SI. DIODE		
D1554	MA151K-X	DIODE		
D1702	1SS81-T6	SI. DIODE		
T R A N S I S T O R				
Q1101-05	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1106-07	2SA1162(YG)-X	CHIP TRANSISTOR		
Q1108-15	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1116-17	2SA1162(YG)-X	CHIP TRANSISTOR		
Q1118	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1201-08	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1210	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1212	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1301-02	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1303	2SK374(Q)-X	F.E.T.		
Q1304-06	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1307	2SA1162(YG)-X	CHIP TRANSISTOR		
Q1308	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1331-32	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1333	2SK374(Q)-X	F.E.T.		
Q1334	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1361-62	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1363	2SK374(Q)-X	F.E.T.		
Q1364	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1451-53	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1454	2SA1162(YG)-X	CHIP TRANSISTOR		
Q1465-62	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1501	2SA1162(YG)-X	CHIP TRANSISTOR		
Q1502-05	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1506	2SA1162(YG)-X	CHIP TRANSISTOR		
Q1507-09	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1510	2SA1162(YG)-X	CHIP TRANSISTOR		
Q1511-15	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1551	2SA1162(YG)-X	CHIP TRANSISTOR		
I C				
IC1101	TC4053BP	I.C.(DIGI-MOS)		
IC1201	AN5625N	I.C.(MONO-ANA)		
IC1202	TC4053BP	I.C.(DIGI-MOS)		
IC1203	AN5640	I.C.(MONO-ANA)		
IC1204	UPC358HA	I.C.(MONO-ANA)		
IC1301-03	UPC358HA	I.C.(MONO-ANA)		
IC1304-05	TC4053BP	I.C.(DIGI-MOS)		
IC1401	TDA4672	I.C.(MONO-ANA)		
IC1402	TDA4680/V6	I.C.(DIGI-OTHER)		
IC1403	AN7808	I.C.(MONO-ANA)		
IC1501	TC4053BP	I.C.(DIGI-MOS)		
IC1502-08	TC4538BP	I.C.(DIGI-MOS)		
IC1509	TC4053BP	I.C.(DIGI-MOS)		
IC1510	HD74LS00P	I.C.(DIGI-OTHER)		
IC1511	HD74LS05P	I.C.(DIGI-OTHER)		
IC1601	AN5265	I.C.(MONO-ANA)		
O T H E R S				
CM1001-02	CHA401N-25P-J	HQF CONNECTOR		
DL1101	CE41577-002	DELAY LINE		
DL1102	CE40959-001	DELAY LINE		
DL1201	CE41489-001	DELAY LINE(1H)		
X1201	CE40668-001	CRYSTAL		
X1202	CE41953-001	CRYSTAL		

DEFLECTION PW BOARD ASS'Y (FX-2033A)

△ Symbol No.	Part No.	Part Name	Description	Local
VARIABLE RESISTOR				
R2313	QVPC611-503HZ	V R	50k Ω B SCREEN	
R2416	QVPC611-102HZ	V R	1k Ω B V CENTER	
R2503	QVPC611-502HZ	V R	5k Ω B H.HOLD	
R2582	QVPC611-303HZ	V R	30k Ω B H.PHASE	
R2612	QVPC611-502HZ	V R	5k Ω B HVC	
RESISTOR				
R2405	QRV141F-2511AY	MF R	2.61k Ω 1/4W	F
R2408	QRV141F-8871AY	MF R	8.87k Ω 1/4W	F
R2419	QRX029J-1R0	MF R		
R2420	QRG029J-270	OM R	27 Ω 2W	J
R2422	QRG019J-221S	OM R	220 Ω 1W	J
R2512-13	QRF074K-4R7	UNF R	4.7 Ω 7W	K
R2515	QRG029J-272	OM R	2.7k Ω 2W	J
R2520	QRG029J-102	OM R	1k Ω 2W	J
R2524	QRX029J-1R8	MF R	1.8 Ω 2W	J
R2530-31	QRX029J-4R7	MF R	4.7 Ω 2W	J
R2532	QRG029J-471	OM R	470 Ω 2W	J
R2548-49	QRG029J-102	OM R	1k Ω 2W	J
R2550	QRG029J-222	OM R	2.2k Ω 2W	J
△ R2714	QRV141F-1982AY	MF R	19.8k Ω 1/4W	F
△ R2715	QRV141F-6801AY	MF R	6.8k Ω 1/4W	F
R2801	QRG029J-100	OM R	10 Ω 2W	J
CAPACITOR				
C2301	QFLC1HK-102MZ	M CAP.	1000 pF 50V	K
C2302	QEHC1HM-108MZ	E CAP.	10 μF 50V	M
C2303	QFZ0117-4701S	MPP CAP.	4700 pF	
C2304	QEHC1HM-476MZ	E CAP.	47 μF 50V	M
C2305	QEN81CM-106Z	BP E CAP.	10 μF 16V	M
C2402	QFLC1HK-823MZ	M CAP.	0.082 μF 50V	K
C2406	QEHC1CM-107MZ	E CAP.	100 μF 16V	M
C2408	QEHC1HM-227MZ	E CAP.	220 μF 50V	M
C2409	QFV71HJ-104MZ	TF CAP.	0.1 μF 50V	J
C2410	QFLB2AK-154M	M CAP.	0.15 μF 100V	K
C2412	QFLC2AJ-102MZ	M CAP.	1000 pF 100V	J
C2413	QFLC1HK-153MZ	M CAP.	0.015 μF 50V	K
C2415	QEHC1VM-107MZ	E CAP.	100 μF 35V	M
C2416-17	QEHC1EM-108MZ	E CAP.	1000 μF 25V	M
C2418	QEHC1EM-477MZ	E CAP.	470 μF 25V	M
C2419	QEHC1EM-227MZ	E CAP.	220 μF 25V	M
C2420	QEHC1CM-337MZ	E CAP.	330 μF 16V	M
C2421	QEHC1EM-477MZ	E CAP.	470 μF 25V	M
C2422	QEHB1VM-108M	E CAP.	1000 μF 35V	M
C2423	QEHC1CM-107MZ	E CAP.	100 μF 16V	M
C2502	QFP31HJ-332SZ	PP CAP.	3300 pF 50V	J
C2503	QFLC1HJ-222MZ	M CAP.	2200 pF 50V	J
C2504	QFV71HJ-824MZ	TF CAP.	0.82 μF 50V	J
C2505	QFLC1HJ-822MZ	M CAP.	8200 pF 50V	J
C2511	QFLC1HK-563MZ	M CAP.	0.056 μF 50V	K
C2512	QFLC1HK-153MZ	M CAP.	0.015 μF 50V	K
C2514	QFLC2AK-104MZ	M CAP.	0.1 μF 100V	K
△ C2519	QFZ0119-105S	MPP CAP.	1 μF	
△ C2520	QFZ0119-304S	MPP CAP.	0.3 μF	
C2524	QFLC1HK-104MZ	M CAP.	0.1 μF 50V	K
△ C2525	QFZ0117-2001S	MPP CAP.	2000 pF	
C2526	QEHC1EM-108MZ	E CAP.	1000 μF 25V	M
C2527	QFLC1HK-473MZ	M CAP.	0.047 μF 50V	K
C2528	QEHC1CM-108MZ	E CAP.	1000 μF 16V	M
C2529	QEHC1EM-108MZ	E CAP.	1000 μF 25V	M
△ C2530	QFZ0117-7001S	MPP CAP.	7000 pF	
△ C2531	QFZ0117-4701S	MPP CAP.	4700 pF	
△ C2532	QFZ0117-7001S	MPP CAP.	7000 pF	
C2533	QEHC1EM-108MZ	E CAP.	1000 μF 25V	M
C2538	QEZ0195-475MZ	E CAP.	4.7 μF	

Symbol No.	Part No.	Part Name	Description	Local
CAPACITOR				
C2539	QEHB1CM-228M	E CAP.	2200 μ F 16V M	
C2555	QCT25CH-470Z	C CAP.	47 pF	
C2556	QCT25CH-680Z	C CAP.	68 pF	
C2557	QCT25CH-560Z	C CAP.	56 pF	
C2558	QFV71HJ-104MZ	TF CAP.	0.1 μ F 50V J	
C2551	QEN61HM-474Z	BP E CAP.	0.47 μ F 50V M	
C2562	QEN61HM-475Z	BP E CAP.	4.7 μ F 50V M	
C2601	QFLC1HJ-103MZ	M CAP.	0.01 μ F 50V J	
C2602	QEHC1CM-107MZ	E CAP.	100 μ F 16V M	
C2603	QFV71HJ-104MZ	TF CAP.	0.1 μ F 50V J	
C2702	QEHC1HM-107MZ	E CAP.	100 μ F 50V M	
C2703	QEHC1CM-337MZ	E CAP.	330 μ F 16V M	
C2704	QEHC1EM-107MZ	E CAP.	100 μ F 25V M	
C2705	QEN61EM-107Z	BP E CAP.	100 μ F 25V M	
C2801	QEH61VM-108M	E CAP.	1000 μ F 35V M	
TRANSFORMER				
T2502	CE42034-001	H.DRIVE TRANSF.		
COIL				
L2501	CELC009-003	CHOKO COIL		
L2502	CELI009-001	LINEARITY COIL		
L2701	CJ30030-026	HEATER CHOKE		
DIODE				
D2301	RU4BS-C1	SI.DIODE		
D2302	1SS133-T2	SI.DIODE		
D2303	MA4062(M)-T2	ZENER DIODE		
D2304	1SS133-T2	SI.DIODE		
D2305	RD9.1ES(B3)-T2	ZENER DIODE		
D2306-09	1SS133-T2	SI.DIODE		
D2310	RD3.3ES(B2)-T2	ZENER DIODE		
D2401	1SS133-T2	SI.DIODE		
D2402	RGP10J(C1)-T3	SI.DIODE		
D2404	RU30-C1	SI.DIODE		
D2405	RD3.9ES(B2)-T2	ZENER DIODE		
D2406	RD75E(B)-T5	ZENER DIODE		
D2407-08	1SS133-T2	SI.DIODE		
D2501	ERD07-15-L	SI.DIODE		
D2502	1SS133-T2	SI.DIODE		
D2503	RD10ES(B3)-T2	ZENER DIODE		
D2504-05	ERD07-15-L	SI.DIODE		
D2506-07	RU3AM-LFC4	SI.DIODE		
D2509	RU4AM-C1	SI.DIODE		
D2510	MA165-T2	SI.DIODE		
D2511	RU3AM-LFC4	SI.DIODE		
D2512	1SS81-T2	SI.DIODE		
D2513	MA4220(M)-T2	ZENER DIODE		
D2515	LD-1203DU	L.E.D.(ORG)	TALLY	
D2601-02	1SS81-T2	SI.DIODE		
D2603	MA4047(M)-T2	ZENER DIODE		
D2701	MA4068(M)C1-T2	ZENER DIODE		
D2702	1SS82-T2	SI.DIODE		
D2703-04	1SS133-T2	SI.DIODE		
D2705	1SS146-T2	SI.DIODE		
D2706	MA4110(M)-T2	ZENER DIODE		
D2708	1SS133-T2	SI.DIODE		
D2709	1SS146-T2	SI.DIODE		
D2711	1SS133-T2	SI.DIODE		
TRANSISTOR				
Q2301	2SC4632	SI.TRANSISTOR		
Q2302-04	2SC1815(YG)-T	SI.TRANSISTOR		
Q2401	2SC3311A(Q)-T	SI.TRANSISTOR		
Q2402-05	2SC1815(YG)-T	SI.TRANSISTOR		
Q2501	2SC3187-T	SI.TRANSISTOR		
Q2502	2SC4589-C1	SI.TRANSISTOR	H.OUT	
Q2504	2SA1309A(R)-T	SI.TRANSISTOR		

△ Symbol No.	Part No.	Part Name	Description	Local
TRANSISTOR				
Q2506	2SC1815(YG)-T	SI. TRANSISTOR		
Q2510	2SA1309A(R)-T	SI. TRANSISTOR		
Q2511	2SD1408(OY)-LB	POWER TRANSISTOR		
Q2551-52	2SC1815(YG)-T	SI. TRANSISTOR		
Q2554	2SC1816(Y)-T	SI. TRANSISTOR		
Q2555	2SC1815(YG)-T	SI. TRANSISTOR		
Q2601	2SC1959(Y)-T	SI. TRANSISTOR		
Q2603	2SC1959(Y)-T	SI. TRANSISTOR		
Q2701	2SC1815(YG)-T	SI. TRANSISTOR		
I C				
IC2301	NJM4560D	I.C(MONO-ANA)		
IC2303	AN79L05-Y	I.C.		
IC2401	UPC1498H	I.C(MONO-ANA)		
IC2403	NJM4560D	I.C(MONO-ANA)		
IC2404	AN7812F	I.C(MONO-ANA)		
IC2405	TA79012S	I.C(MONO-ANA)		
IC2406	TA78L009AP-Y	I.C.		
IC2407	AN7812F	I.C(MONO-ANA)		
IC2408	AN7805F	I.C(MONO-ANA)		
IC2501	HA11423	I.C(MONO-ANA)		
IC2551	TC4066BP	I.C(DIGI-MOS)		
IC2553	TC4538BP	I.C(DIGI-MOS)		
IC2554-55	AN7812F	I.C(MONO-ANA)		
IC2501	NJM4560D	I.C(MONO-ANA)		
OTHERS				
△ CP2001	ICP-N75-Y	I.C.PROTECT		
△ FR2301	QRH127J-182M	F.R.	1.8kΩ 1/2W	J
△ FR2426	QRH127K-R22M	F.R.	0.22Ω 1/2W	K
△ FR2525	QRH127J-180M	F.R.	1Ω 1/2W	J
△ FR2702	QRH127K-R22M	F.R.	0.22Ω 1/2W	K
△ FR2704	QRH127J-4R7M	F.R.	4.7Ω 1/2W	J
S2501	QSS1F22-C09	SLIDE SWITCH	FREE RUN SW	

FRONT CONTROL PW BOARD ASS'Y (FX-4039A)

△ Symbol No.	Part No.	Part Name	Description	Local
VARIABLE RESISTOR				
R4001	QVGA003-CB14A	V.R.	BRIGHT	
R4002	QVGA003-CB14A	V.R.	CONTRAST	
R4003	QVGA003-CB14A	V.R.	CHROMA	
R4004	QVGA003-CB14A	V.R.	PHASE	
R4005	QVGA004-CB14A	V.R.	VOLUME	
CAPACITOR				
C4101	QEKC03M-107M2	E CAP.	100μF 6.3V	M
C4102	QCZ0207-104AZ	C CAP.	0.1μF	
DIODE				
D4101-14	MA165-T2	SI. DIODE		
D4115-19	RD5.6ES(B3)-T2	ZENER DIODE		
D4120	GL5K68	L.E.D.	POWER	
D4121-23	MA165-T2	SI. DIODE		
OTHERS				
S4101	CM48038-001	L.E.D. HOLDER		
S4102	QSTL535-C01	PUSH SWITCH	UNDER P/CROSS etc	
S4103	QSTL535-C02	PUSH SWITCH	VIDEO A/B, RGB, etc	
S4104	QSP4H11-C12Z	PUSH SWITCH	MENU	
S4105	QSP4H11-C12Z	PUSH SWITCH	ENTER	
S4106	QSP4H11-C12Z	PUSH SWITCH	UP	
S4107	QSP4H11-C12Z	PUSH SWITCH	DOWN	
S4108	QSP4H11-C12Z	PUSH SWITCH	RIGHT	
S4109	QSP4H11-C12Z	PUSH SWITCH	DEGAUSS	

CRT SOCKET PW BOARD ASS'Y (FX-3037A)

Symbol No.	Part No.	Part Name	Description	Local
RESISTOR				
R3310-16	QR6029J-103	OM R	10k Ω 2W J	
R3322	QRD149J-102S	C R	1k Ω 1/4W J	
R3323	QRD149J-102S	C R	1k Ω 1/4W J	
R3324	QRD149J-102S	C R	1k Ω 1/4W J	
R3507	QR6029J-822	OM R	8.2k Ω 2W J	
CAPACITOR				
C3321	QETC2EM-105Z	E CAP.	1 μ F 250V M	
C3501	QETC2EM-105Z	E CAP.	1 μ F 250V M	
C3503	QCZ0121-102M	C CAP.	1000 pF	
C3505	QFP32GK-563M	PP CAP.	0.056 μ F 400V K	
COIL				
L3301	CELP026-5R6Z	PEAKING COIL	5.6 μ H	
L3302	CELP026-4R7Z	PEAKING COIL	4.7 μ H	
L3303	CELP026-3R9Z	PEAKING COIL	3.9 μ H	
L3304	CELP026-220Z	PEAKING COIL	22 μ H	
L3305	CELP026-180Z	PEAKING COIL	18 μ H	
L3306	CELP026-220Z	PEAKING COIL	22 μ H	
L3501	A49468-56Z	PEAKING COIL	5600 μ H	
DIODE				
D3301-03	MA165-T2	SI DIODE		
D3304-06	1SS244-T2	SI DIODE		
D3307-09	1SS120-T2	SI DIODE		
D3316	MA4075(M)-T2	ZENER DIODE		
D3501-02	RGPI0J(C1)-T3	SI DIODE		
D3503-04	1SS146-T2	SI DIODE		
TRANSISTOR				
Q3301-03	2SC4502-T	SI TRANSISTOR		
Q3304-06	2SC4544-C1	SI TRANSISTOR		
Q3307-09	2SA1321-T	SI TRANSISTOR		
Q3310-12	2SC3334-T	SI TRANSISTOR		
Q3501	2SC1505(MLK)	SI TRANSISTOR		
OTHERS				
SK3001	CE42446-001	CRT SOCKET		

MICOM PW BOARD ASS'Y (FX-5013A)

△ Symbol No.	Part No.	Part Name	Description	Local
CAPACITOR				
C5101	QEKIC1M-476MZ	E CAP.	47 μ F 16V	M
C5102	NCB21HK-103AY	CHIP CAP.	0.01 μ F 50V	K
C5103-04	NCF21HZ-104AY	CHIP C CAP.	0.1 μ F 50V	Z
C5105-09	NCB21HK-103AY	CHIP CAP.	0.01 μ F 50V	K
C5110-12	NCF21HZ-104AY	CHIP C CAP.	0.1 μ F 50V	Z
C5113	QEKIC1M-476MZ	E CAP.	47 μ F 16V	M
C5114	NCT03CH-330AY	CHIP CAP.	33 μ F 1600V	H
C5116	NCF21HZ-104AY	CHIP C CAP.	0.1 μ F 50V	Z
C5117	QEKCOJM-107MZ	E CAP.	100 μ F 6.3V	M
C5118	NCF21HZ-104AY	CHIP C CAP.	0.1 μ F 50V	Z
C5119	QEKCOJM-107MZ	E CAP.	100 μ F 6.3V	M
C5120	NCF21HZ-104AY	CHIP C CAP.	0.1 μ F 50V	Z
C5121	QEKCOJM-107MZ	E CAP.	100 μ F 6.3V	M
C5122	NCF21HZ-104AY	CHIP C CAP.	0.1 μ F 50V	Z
C5123	QEKIC1M-476MZ	E CAP.	47 μ F 16V	M
C5124	NCF21HZ-104AY	CHIP C CAP.	0.1 μ F 50V	Z
C5126	NCF21HZ-104AY	CHIP C CAP.	0.1 μ F 50V	Z
C5127	NCT03CH-7R0AY	CHIP CAP.	7 μ F 1600V	H
C5128-29	NCF21HZ-104AY	CHIP C CAP.	0.1 μ F 50V	Z
C5201-03	QEKIC1M-1056MZ	E CAP.	1 μ F 50V	M
C5301	QEKIC1M-1056MZ	E CAP.	10 μ F 16V	M
C5302	QEKIC1M-2246MZ	E CAP.	0.22 μ F 50V	M
C5303	NCB21HK-223AY	CHIP CAP.	0.022 μ F 50V	K
C5304	QEKIC1M-1056MZ	E CAP.	1 μ F 50V	M
C5401-03	QEKIC1M-1056MZ	E CAP.	1 μ F 50V	M
COIL				
L5101-02	CELP008-100YL	CHIP P COIL		
L5103	CELP008-330YL	INDUCTOR		
DIODE				
D5101-11	MA3056(L)-X	ZENER DIODE		
D5112	MA3043-X	CHIP ZENER DIODE		
D5113-14	MA151K-X	DIODE		
D5301	MA151K-X	DIODE		
D5501-04	MA3056(L)-X	ZENER DIODE		
D5701	MA3150(M)-X	ZENER DIODE		
D5702-04	MA3056(L)-X	ZENER DIODE		
D5705-06	MA3150(M)-X	ZENER DIODE		
D5707-08	MA3056(L)-X	ZENER DIODE		
D5709-11	MA3150(M)-X	ZENER DIODE		
D5712	MA8130-X	CHIP ZENER DIODE		
D5713	MA3056(L)-X	ZENER DIODE		
D5714	MA8056-X	CHIP ZENER DIODE		
D5715	MA3056(L)-X	ZENER DIODE		
D5716	MA8056-X	CHIP ZENER DIODE		
D5717	MA3150(M)-X	ZENER DIODE		
D5718	MA3056(L)-X	ZENER DIODE		
D5719	MA8130-X	CHIP ZENER DIODE		
D5720-22	MA3056(L)-X	ZENER DIODE		
D5723	MA8056-X	CHIP ZENER DIODE		
D5724	MA3150(M)-X	ZENER DIODE		
D5725	MA8130-X	CHIP ZENER DIODE		
D5726	MA3056(L)-X	ZENER DIODE		
D5727	MA8056-X	CHIP ZENER DIODE		
D5728-32	MA3056(L)-X	ZENER DIODE		
TRANSISTOR				
Q5101-06	2SC2712(YG)-X	CHIP TRANSISTOR		
Q5201	2SC2712(YG)-X	CHIP TRANSISTOR		
Q5202	2SA1162(YG)-X	CHIP TRANSISTOR		
Q5203	2SC2712(YG)-X	CHIP TRANSISTOR		
Q5204	2SA1162(YG)-X	CHIP TRANSISTOR		
Q5205	2SC2712(YG)-X	CHIP TRANSISTOR		
Q5206	2SA1162(YG)-X	CHIP TRANSISTOR		

Symbol No.	Part No.	Part Name	Description	Local
TRANSISTOR				
Q5207-10	2SC2712(YG)-X	CHIP TRANSISTOR		
Q5301-03	2SA1162(YG)-X	CHIP TRANSISTOR		
Q5304	2SC2712(YG)-X	CHIP TRANSISTOR		
Q5401	2SC2712(YG)-X	CHIP TRANSISTOR		
I.C.				
IC5101	MB89647PF-125	I.C.		
IC5102	MB90077PF-109	I.C.(MICRO-COMP)		
IC5103	ST24BM-1400	I.C.		
IC5105	GP1U781Q	IFR DETECT UNIT		
IC5106	HD74HC158FP	I.C.(DIGI-OTHER)		
IC5108	HD74HC32FP	I.C.		
IC5401	UPC4658G-W	I.C.(MONO-ANA)		
OTHERS				
CF5101	CM46946-001	SHIELD PLATE		
	CST8.00MTW	CER. RESONATOR		

INPUT PW BOARD ASS'Y (FX-6047A)

Symbol No.	Part No.	Part Name	Description	Local
RESISTOR				
R6201	QRV141F-75ROAY	MF R	75 Ω 1/4W F	
R6211	QRV141F-75ROAY	MF R	75 Ω 1/4W F	
R6231	QRV141F-75ROAY	MF R	75 Ω 1/4W F	
R6301	QRV141F-75ROAY	MF R	75 Ω 1/4W F	
R6701	QRV141F-75ROAY	MF R	75 Ω 1/4W F	
R6731	QRV141F-75ROAY	MF R	75 Ω 1/4W F	
R6761	QRV141F-75ROAY	MF R	75 Ω 1/4W F	
CAPACITOR				
C6201	QEKCI1HM-475GMZ	E CAP.	4.7 μF 50V M	
C6203	QEKCI1CM-336MZ	E CAP.	33 μF 16V M	
C6205	QEKCI1HM-475GMZ	E CAP.	4.7 μF 50V M	
C6207	QEKCI1CM-336MZ	E CAP.	33 μF 16V M	
C6220	QEKCI1HM-475GMZ	E CAP.	4.7 μF 50V M	
C6230-31	QFLC1HK-333MZ	M CAP.	0.033 μF 50V K	
C6281-84	QEKCI1CM-107MZ	E CAP.	100 μF 16V M	
C6301	QFLC1HJ-103MZ	M CAP.	0.01 μF 50V J	
C6751	QEKCI1HM-475GMZ	E CAP.	4.7 μF 50V M	
C6783-84	QFLC1HJ-104MZ	M CAP.	0.1 μF 50V J	
COIL				
L6701	CELP026-330Z	PEAKING COIL	33 μH	
L6702	CELP026-680Z	PEAKING COIL	68 μH	
L6703	CELP026-330Z	PEAKING COIL	33 μH	
L6704	CELP026-680Z	PEAKING COIL	68 μH	
DIODE				
D6201-09	1SS133-T2	SI. DIODE		
D6211-12	1SS133-T2	SI. DIODE		
D6301-03	1SS133-T2	SI. DIODE		
D6701-12	1SS133-T2	SI. DIODE		
D6801-08	1SS133-T2	SI. DIODE		
TRANSISTOR				
Q6201-03	2SC1740S(R)-T	SI. TRANSISTOR		
Q6204	2SC1740S(QR)-T	SI. TRANSISTOR		
Q6208	2SC1740S(QR)-T	SI. TRANSISTOR		
Q6211	2SK301(Q)-T	F.E.T.		
Q6301	2SC1740S(R)-T	SI. TRANSISTOR		
Q6302-03	2SC1740S(QR)-T	SI. TRANSISTOR		
Q6601-03	2SC1740S(R)-T	SI. TRANSISTOR		
Q6604-06	2SC1740S(QR)-T	SI. TRANSISTOR		
Q6701-03	2SC1740S(R)-T	SI. TRANSISTOR		
Q6704	2SC1740S(QR)-T	SI. TRANSISTOR		
Q6706	2SC1740S(QR)-T	SI. TRANSISTOR		

Symbol No.	Part No.	Part Name	Description	Locat
TRANSISTOR				
Q6707	2SA933S(QR)-T	SI.TRANSISTOR		
Q6708-09	2SC1740S(QR)-T	SI.TRANSISTOR		
Q6711	2SC1740S(QR)-T	SI.TRANSISTOR		
Q6712	2SA933S(QR)-T	SI.TRANSISTOR		
Q6713-14	2SC1740S(QR)-T	SI.TRANSISTOR		
Q6716-20	2SC1740S(QR)-T	SI.TRANSISTOR		
I C				
IC9201	LA7016	I.C(MONO-ANA)		
IC9601	TC4066BP	I.C(DIGI-MOS)		
IC9701	TC4053BP	I.C(DIGI-MOS)		
IC9801	HD74LS04P	I.C(DIGI-OTHER)		
OTHERS				
CN6002	CHA401N-25R-J	HQF CONNECTOR		
J6201	CEMB010-004	BNC CONNECTOR	VIDEO A/B /SYNC IN	
J6202	CEMB010-004	BNC CONNECTOR	VIDEO A/B /SYNC OUT	
J6301	QMCC006-C01	DIN CONNECTOR	Y/C IN	
J6302	QMCC006-C01	DIN CONNECTOR	Y/C OUT	
J6601	CEMN070-001	PIN JACK	AUDIO A OUT/IN	
J6602	CEMN070-001	PIN JACK	AUDIO B OUT/IN	
J6603	CEMN070-001	PIN JACK	AUDIO C OUT/IN	
J6701	CEMB010-004	BNC CONNECTOR	G/Y/B/B-Y/R/R-Y IN	
OTHERS				
J6702	CEMB010-004	BNC CONNECTOR	G/Y/B/B-Y/R/R-Y OUT	
J6801	QMCC602-C01	DIN JACK		
S6201-03	QSS4C22-C02	SLIDE SWITCH	OPEN ↔75 Ω	
S6701-04	QSS4C22-C02	SLIDE SWITCH	OPEN ↔75 Ω	

POWER PW BOARD ASS'Y (FX-9043A)

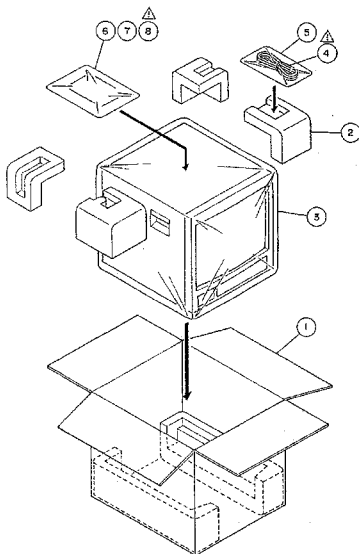
△ Symbol No.	Part No.	Part Name	Description	Local
VARIABLE RESISTOR				
R9038	QVPC611-102HZ	V R	1kΩ B B1.ADJ	
RESISTOR				
△ R9002	QRD122J-474S	C R	470kΩ 1/2W J	
R9005-06	QRD123J-104SX	C R	100kΩ 1/2W J	
R9014	QAM059K-R22	MP R	0.22 Ω 5W K	
R9016	QRG039J-563A	OM R	56kΩ 3W J	
R9016	QRD123J-182SX	C R	1.8kΩ 1/2W J	
R9030	QRD123J-100SX	C R	10 Ω 1/2W J	
R9034	QRV141F-2202AY	MF R	22kΩ 1/4W F	
R9035	QRV141F-1962AY	MF R	19.6kΩ 1/4W F	
R9037	QRV141F-3901AY	MF R	3.9kΩ 1/4W F	
R9039	QRD123J-154SX	C R	150kΩ 1/2W J	
R9041	QRD123J-164SX	C R	150kΩ 1/2W J	
R9042	QRD123J-183SX	C R	18kΩ 1/2W J	
R9043	QRD123J-184SX	C R	180kΩ 1/2W J	
R9044	QRV141F-3901AY	MF R	3.9kΩ 1/4W F	
R9045	QRV141F-2701AY	MF R	2.7kΩ 1/4W F	
R9048	QRV141F-1601AY	MF R	1.5kΩ 1/4W F	
R9053	QRX029J-R55A	MF R	0.56 Ω 2W J	
R9054	QRD123J-270SX	C R	27 Ω 1/2W J	
R9060	QRF154K-4R7	UNF R	4.7 Ω 1/5W K	
R9061-64	QRG039J-123	OM R	12kΩ 3W J	
R9065	QRG039J-223	OM R	22kΩ 3W J	
CAPACITOR				
△ C9001	QCZ9033-472A	C CAP.	4700 p FAC125V M	
△ C9002	QCZ9033-472A	C CAP.	4700 p FAC125V M	
△ C9003	QFZ9035-474M	MM CAP.	0.47 μ FAC125V M	
△ C9004	QFZ9035-474M	MM CAP.	0.47 μ FAC125V M	
△ C9005	QCZ9033-472A	C CAP.	4700 p FAC125V M	
△ C9006	QCZ9033-472A	C CAP.	4800 p FAC125V M	
△ C9007	QCZ9033-332A	C CAP.	3300 p FAC125V M	
△ C9009	QCZ9033-332A	C CAP.	3300 p FAC125V M	
△ C9010	QEZD144-477R	E CAP.	470 μ F	
C9018	QEHCI1HM-106MZ	E CAP.	10 μ F 50V M	
C9019	QFP31HJ-152SZ	PP CAP.	1500 p F 50V J	
C9020	QEHCI1HM-106MZ	E CAP.	1 μ F 50V M	
C9021	QFLCI1HJ-103MZ	M CAP.	0.01 μ F 50V J	
C9022	QEHCI1HM-475MZ	E CAP.	4.7 μ F 50V M	
C9023	QFLCI1HK-222MZ	M CAP.	2200 p F 50V K	
C9025	QEHCI1EM-107MZ	E CAP.	100 μ F 25V M	
C9026	QFLCI1HK-473MZ	M CAP.	0.047 μ F 50V K	
C9027	QEN61HM-105Z	BP E CAP.	1 μ F 50V M	
C9029	QFLCI1HK-472MZ	M CAP.	4700 p F 50V K	
C9036	QFLCI1HJ-103MZ	M CAP.	0.01 μ F 50V J	
C9038	QEHBI1EM-338M	E CAP.	3300 μ F 25V M	
C9039	QEHBI1EM-228M	E CAP.	2200 μ F 25V M	
C9046	QEHBI2CM-227M	E CAP.	220 μ F 160V M	
C9049-51	QEHBI2AM-477M	E CAP.	470 μ F 100V M	
C9516-17	QETB2AM-477	E CAP.	470 μ F 100V M	
TRANSFORMER				
△ T9001	CETS031-001	SW TRANSF		
△ T9002	CE41856-00A	PULSE TRANSF.		
COIL				
L9901	CELP006-4R7Z	PEAKING COIL	4.7 μ H	
L9902	CJ30030-100	HEATER CHOKE		
DIODE				
△ D9001	S4V860-L16	BRIDGE DIODE		
D9005	RG2A-LFC4	SI DIODE		
D9006	FML-G12S	SI DIODE		
D9009	1SS133-T2	SI DIODE		
D9010	RL4Z-C1	SI DIODE		

△ Symbol No.	Part No.	Part Name	Description	Local
D I O D E				
D9012	EG1Z-T3	SI. DIODE		
D9013-14	1SS133-T2	SI. DIODE		
D9016-17	1SS133-T2	SI. DIODE		
D9018-19	RG4C-C1	SI. DIODE		
D9020	1SS133-T2	SI. DIODE		
D9021-22	MA4068(N)C1-T2	ZENER DIODE		
D9023	MA4110(M)-T2	ZENER DIODE		
D9024	RD5.6E5(B2)-T2	ZENER DIODE		
D9026	RD18E5(B3)-T2	ZENER DIODE		
D9027	MA4300(M)-T2	ZENER DIODE		
D9028	1SS81-T6	SI. DIODE		
D9032	1SS81-T5	SI. DIODE		
D9033	RD3.3E(B2)-T2	ZENER DIODE		
T R A N S I S T O R				
Q9001-02	2SC1959(Y)-T	SI. TRANSISTOR		
Q9003	2SA562TM(Y)-T	SI. TRANSISTOR		
△ Q9004	2SK1118	F.E.T.		
Q9005	2SD1409	SI. TRANSISTOR		
Q9006	2SC1959(Y)-T	SI. TRANSISTOR		
Q9008	2SA1370(E)	SI. TRANSISTOR		
Q9012	2SC1472K(AB)-T	SI. TRANSISTOR		
I C				
△ IC9001	FA5301P	I.C(MONO-ANA)		
O T H E R S				
△ F9001	CEM6002-001Z	FUSE CLIP		
△ FR9001	QMF51E2-4R0S	FUSE	4A	
△ FR9002	QRH127K-R22M	F R	0.22 Ω	1/2W K
△ FR9003	QRH127K-R22M	F R	0.22 Ω	1/2W K
△ K9902-03	CE41923-001	CORE SLEEVE		
K9905	CE42050-001Z	CORE		
△ LF9001	CE41775-003	LINE FILTER		
△ LF9002	CE41775-003	LINE FILTER		
△ PC9001	CHV17F-C1	I.C(PH.COUPLER)		
△ RY9002	CESK026-001	RELAY		
△ SW01	QSP4021-C06	PUSH SWITCH	POWER SW	
△ TH9001	CEKP009-001	P. THERMISTOR		
△ VA9001	ERZ-C10VK621G	VARISTOR		

V.SAW MODULE PW BOARD ASS'Y (FX-M004A)

△ Symbol No.	Part No.	Part Name	Description	Local
O T H E R S				
	FX-M004A	V.SAW MODULE PWB		

PACKING



PACKING PARTS LIST

△ Ref.No.	Part No.	Part Name	Description	Local
1	CP11224-A13	PACKING CASE		
2	CP11441-A0A	CUSHION ASSY		
3	AP3756-Z3	POLY BAG		
△ 4	QMP4808-200K	POWER CORD		
5	QPG6A012-03005	POLY BAG		
6	QPG6A026-03505	POLY BAG		
7	CK22924-001	X-RAY CARD		
△ 8	CQ46026-002	INST BOOK		